

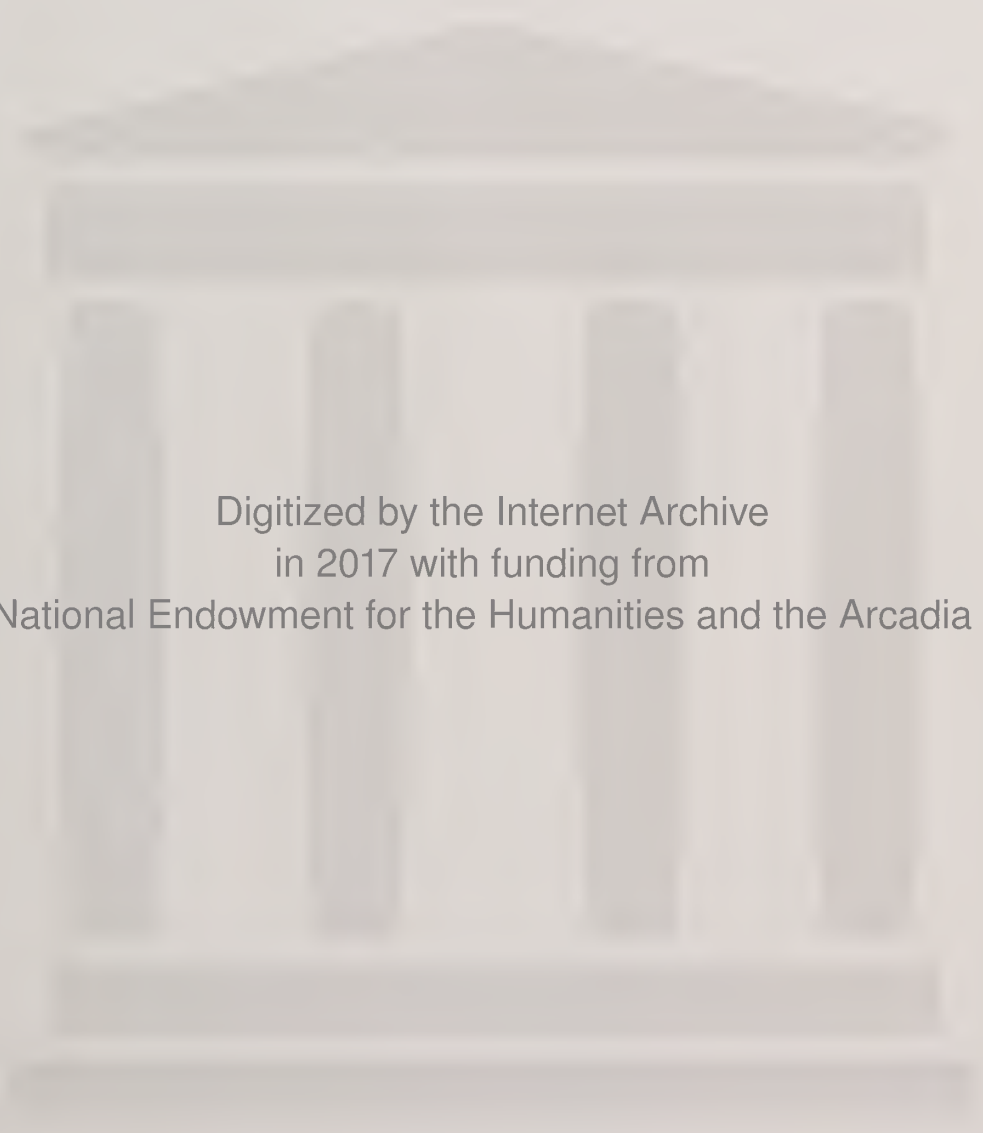


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# VIRGINIA MEDICAL MONTHLY



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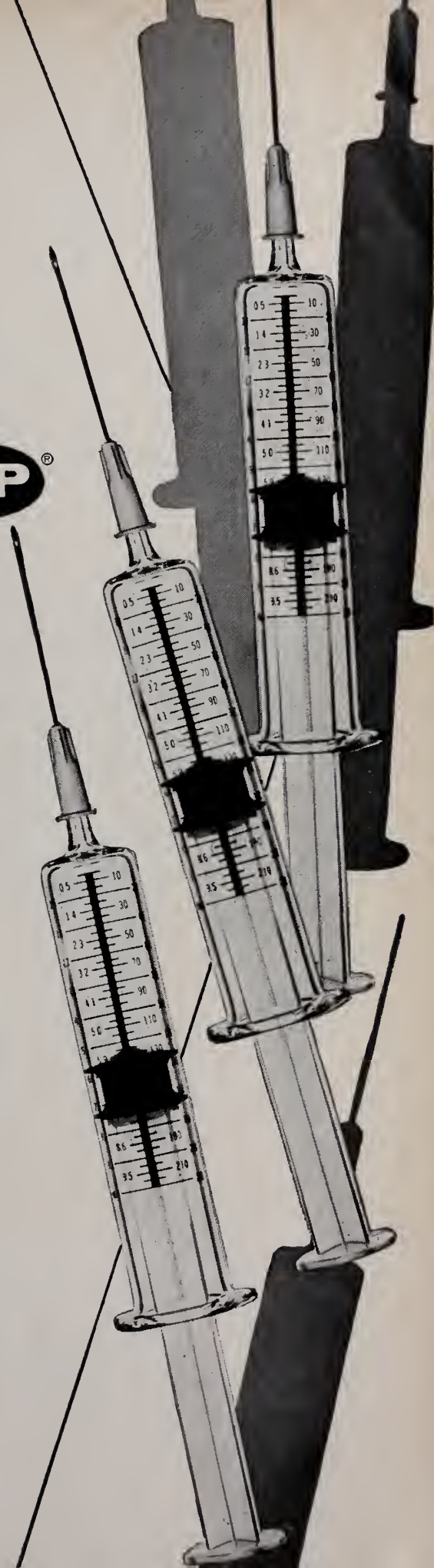
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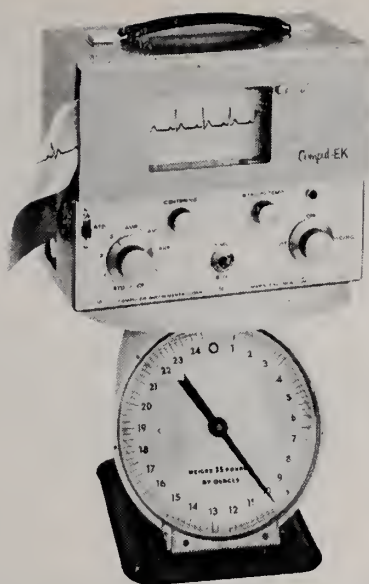
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*Number 3 of a series published in Washington, D.C. newspapers*

**PEOPLES**

**PRESCRIPTION DRUG STORES**

# New view of an oral contraceptive at work



Although suppression of ovulation remains the primary mode of action of oral contraceptives, newer knowledge indicates that products like Norinyl-1— a combination of both low-dosage progestogen and estrogen for the full treatment cycle— may provide multiple action that helps explain their unexcelled record of contraceptive effectiveness. This report explores the possible secondary protective mechanisms offered by combined hormonal administration.

Accumulating evidence has indicated that sparse, highly viscous cervical mucus has a possible adverse effect on the motility and survival of spermatozoa.

The estrogen-opposing progestational ingredient of Norinyl-1 (norethindrone 1 mg. with mestranol 0.05 mg.) changes the usual mid-cycle picture of a thin, watery cervical mucus. The result—a built-in barrier that appears to inhibit sperm from reaching the ovum should one be released. The inset in the adjoining photograph shows immobile spermatozoa as they appear in cervical mucus taken from a patient treated with Norinyl-1.

See last page for contraindications, precautions, side effects and dosage.



# How the estrogen-opposing action of Norinyl-1 creates cervical mucus that may be hostile to sperm penetration

Normally, estrogen activity during the fertile midcycle stimulates the production of a profuse and watery cervical mucus that permits maximum sperm motility and promotes penetration.

But what happens when Norinyl-1 is administered? Its potent progestogen, norethindrone, opposes estrogen stimulation of cervical mucus. Consequently, the amount of mucus decreases and its viscosity increases. This results in a sparse but thick mucus barrier that appears to diminish the vitality of the sperm and to impair its powers of penetration.

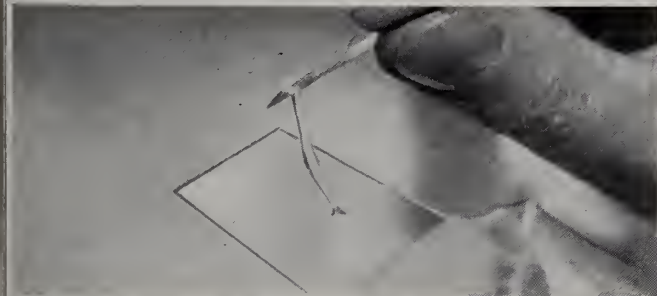
## The role of viscous cervical mucus as a secondary action of Norinyl-1

In a report on 89 patients taking this medication,\* cervical mucus obtained from cycle day 5 to cycle day 29 appeared scant and thick and exhibited little or no Spinnbarkeit.

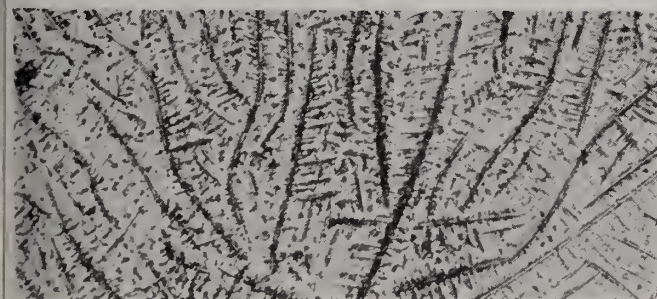
In the opinion of this investigator, the effect on cervical mucus may be sufficient to prevent conception.

Cohen, M. R.: Symposium: Mechanisms of Action of Low Dosage Oral Contraceptive, Yale University Medical Center, New Haven, Conn., April 6, 1967.

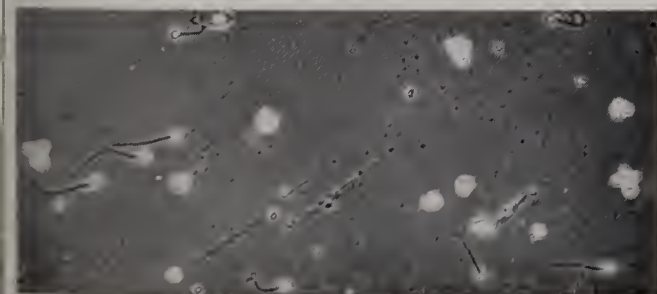
**Normal cervical mucus at midcycle in untreated patient is known to permit sperm motility... promote sperm penetration.**



Cervical mucus is thin and watery with a stretchability (Spinnbarkeit) of 15 to 20 cm.



Thin, watery mucus crystallizes into this well-defined, fernlike pattern within a minute.

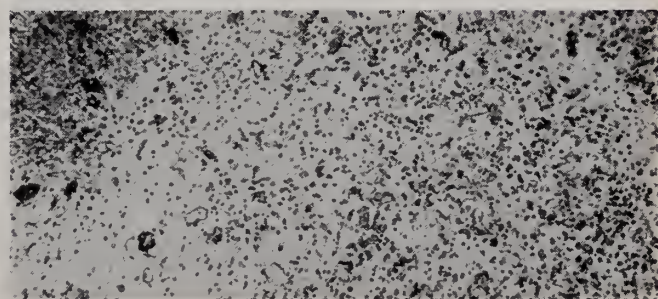


Spermatozoa appear healthy, are active and freemoving.

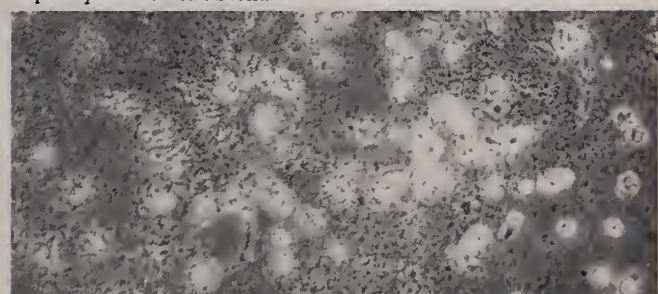
**Viscous cervical mucus at midcycle produced by Norinyl-1 appears to impair sperm vitality... inhibit penetration.**



Cervical mucus is scanty, thick and viscous. Spinnbarkeit is 1 cm. or less.



In thick, viscous cervical mucus the fern pattern is poorly defined or absent.



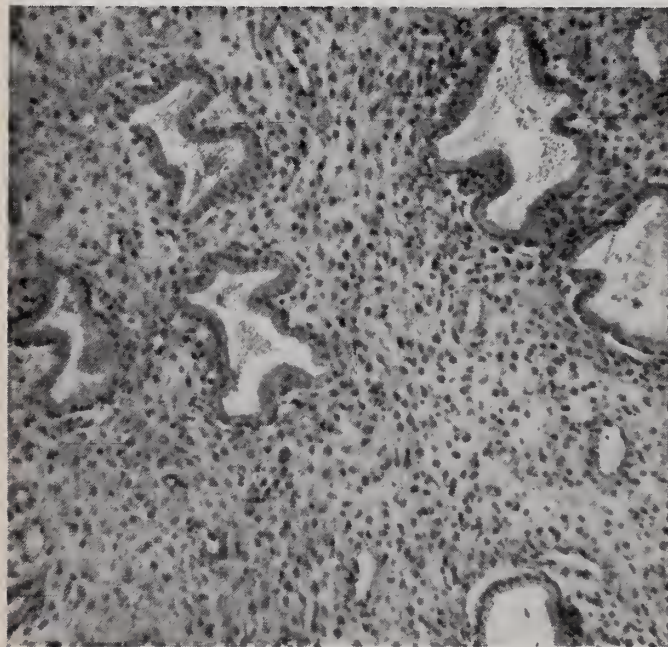
Immobile spermatozoa as they appear in cervical mucus taken from a patient treated with Norinyl-1.



# How Norinyl-1 alters normal endometrial responses— another possible protective mechanism

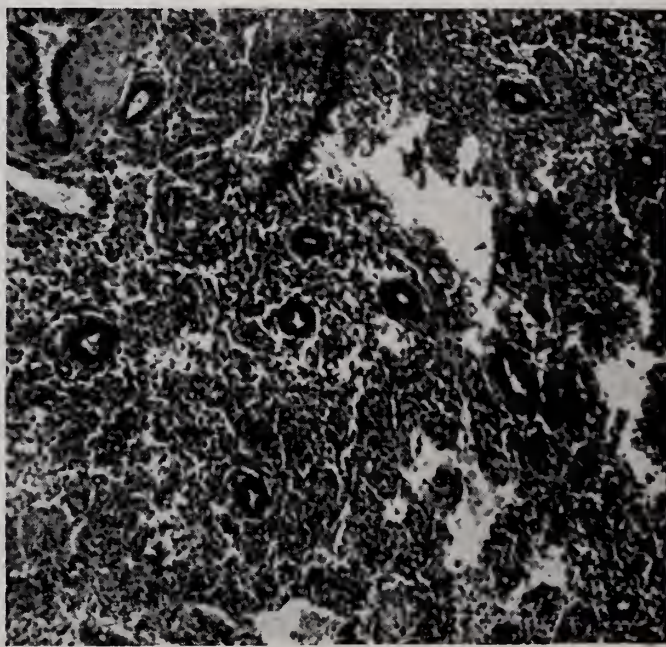
Let us suppose that an ovum is released—as occurs in an occasional, rare case—and somehow a sperm succeeds in penetrating the cervical mucus barrier. Should this come about, one additional action of Norinyl-1 may protect the patient from unwanted pregnancy. The theory is that progestogen intake makes endometrial tissue unreceptive to implantation.

Endometrium of  
untreated patient



Normally, the endometrium progresses through a proliferative phase stimulated by estrogen and a secretory phase stimulated by progesterone. During the secretory phase the endometrium is receptive to the fertilized ovum.

Endometrium produced  
by Norinyl-1



When Norinyl-1 is administered its progestogen component—norethindrone—accelerates the secretory phase and suppresses glandular and vascular development.



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Norethindrone was first reported for use as a progestational agent in human beings in 1955. Norethindrone 2 mg. with mestranol 0.1 mg., as an oral contraceptive, is currently in use by over 2,000,000 women. Clinical experience now establishes that Norinyl-1 also amply meets the criteria of reliability and safety.\*

\*Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965.

## PRESCRIBING INFORMATION

**Contraindications:** 1. Patients with thrombophlebitis or with a history of thrombophlebitis or pulmonary embolism. 2. Liver dysfunction or disease. 3. Patients with known or suspected carcinoma of the breast or genital organs. 4. Undiagnosed vaginal bleeding.

**Warnings:** 1. Discontinue medication pending examination if there is sudden partial or complete loss of vision or if there is a sudden onset of proptosis, diplopia, or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn. 2. Since the safety of Norinyl-1 in pregnancy has not been demonstrated, it is recommended that or any patient who has missed two consecutive periods, pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule, the possibility of pregnancy should be considered at the time of the first missed period. 3. Detectable amounts of the active ingredients in oral contraceptives have been identified in the milk of mothers receiving these drugs. The significance of this dose to the infant has not been determined.

**Precautions:** 1. The pretreatment physical examination should include special reference to breast and pelvic organs, as well as a Papanicolaou smear. 2. Endocrine and possibly liver function tests may be affected by treatment with Norinyl-1. Therefore, if such tests are abnormal in a patient taking Norinyl-1, it is recommended that they be repeated after the drug has been withdrawn for 2 months. 3. Under the influence of estrogen-progestogen preparations, preexisting uterine fibroids may increase in size. 4. Because these agents may cause some degree of fluid retention, conditions that may be influenced by this factor, such as epilepsy, migraine, asthma, cardiac, or renal dysfunction, require careful observation. 5. Although a cause and effect relationship has not been established, Norinyl-1 should be used with caution in patients with a history of cerebrovascular accident. 6. In relation to breakthrough bleeding, as in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In cases of undiagnosed vaginal bleeding, adequate diagnostic measures are

Indicated. 7. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. 8. Any possible influence of prolonged Norinyl-1 therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. 9. A decrease in glucose tolerance has been observed in a small percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Norinyl-1 therapy. 10. Because of the occasional occurrence of thrombophlebitis and pulmonary embolism in patients taking oral contraceptives, the physician should be alert to the earliest manifestations of the disease. A cause and effect relationship has not been demonstrated. 11. Because of the effects of estrogens on epiphyseal closure, Norinyl-1 should be used judiciously in young patients in whom bone growth is not complete. 12. The age of the patient constitutes no absolute limiting factor, although treatment with Norinyl-1 may mask the onset of the climacteric. 13. The pathologist should be advised of Norinyl-1 therapy when relevant specimens are submitted.

**Side Effects:** The following adverse reactions have been observed with varying incidence in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms, breakthrough bleeding, spotting, change in menstrual flow, amenorrhea, edema, chloasma, breast changes (tenderness, enlargement and secretion), loss of scalp hair, change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately postpartum, cholestatic jaundice, erythema multiforme, erythema nodosum, hemorrhagic eruption, migraine, rash (allergic), itching, rise in blood pressure in susceptible individuals, mental depression.

The following occurrences have been observed in users of oral contraceptives. A cause and effect relationship has not been established: thrombophlebitis, pulmonary embolism, neuroocular lesions.

The following laboratory results may be

altered by the use of oral contraceptives: increased bromsulphalein retention and other hepatic function tests, coagulation tests (increase in prothrombin, factors VII, VIII, IX and X), thyroid function (increase in FBI and butanol extractable protein-bound iodine and decrease in T<sub>3</sub> values), metapyrone test, pregnanediol determination.

Other side effects reported to have occurred in association with use of this drug are dizziness, hirsutism, pains in legs, back, chest and abdomen, dysuria, drowsiness, vaginal discharge, libido increased and decreased, eruptions, hypermenorrhea, hypomenorrhea, increased appetite, G.U. infections, varicose veins, abdominal fullness, acne, headache, nervousness, allergies, blurred vision, pain in eyes, and itching in eyes. For complete clinical data, see package insert.

**Dosage and Administration:** 1. One tablet of Norinyl-1 is administered orally for 20 days beginning on day 5 of the menstrual cycle. (Count day 1 of the cycle as the first day of menstrual bleeding.) Repeat this dosage schedule for each cycle. 2. If no menstrual period occurs after a cycle of treatment (20 tablets) in which patient adhered to the schedule, the patient must be instructed to resume taking the Norinyl-1 tablets 7 days after the previous 20-day course was completed. For example, if the last pill of a previous cycle had been taken on a Sunday, then a new cycle of treatment should begin on the following Sunday. 3. In the postpartum woman, it is recommended that the first cycle of treatment should begin on day 5 of the first menstrual cycle. However, Norinyl-1 should not be administered during lactation.

**Availability:** Norinyl-1 (norethindrone 1 mg. with mestranol 0.05 mg.)—Dispensers of 20 and 60 and bottles of 250 tablets.

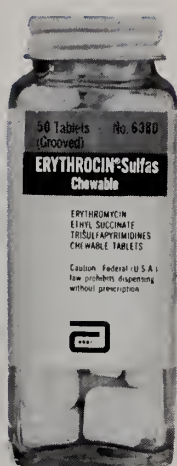
norethindrone — an original steroid from  
**SYNTEX**  
LABORATORIES INC., PALO ALTO, CALIF.



\* Perhaps there have been times when you wanted to prescribe erythromycin and triple sulfas for little patients. Now you can—with a choice of two new fine-tasting pediatric forms.



# New—Two Pediatric Forms of Erythromycin and Triple Sulfas



## ERYTHROCIN®-SULFAS Chewable (Erythromycin ethyl succinate-trisulfapyrimidines chewable tablet)

In clinical trials<sup>1,2</sup>, this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

Diagnoses (multiple in some cases) represented a cross section of bacterial infections commonly seen in pediatric office practice.

Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

**A clinical cure rate of 94.5%**

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.



## ERYTHROCIN®-SULFAS Granules (Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated<sup>1,2</sup>—all children, ages four months to 15 years.

The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

701358

**A clinical cure rate of 97.7%**



Brief  
Summary  
on next  
page

# ERYTHROCIN®-SULFAS

## Brief Summary

**Contraindications:** Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

**Warnings:** As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

**Precautions, Side Effects:** Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steroids, etc.) should be administered and the drug withdrawn.

**Adverse Reactions:** Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

**Supplied:** The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.

701358



# Tandearil®

## oxyphenbutazone

Tandearil in Painful Shoulder

**Therapeutic Effects:** Stiffness and pain may diminish within 2 days, and full mobility may be restored within a week. These effects are obtained with oxyphenbutazone alone or combined with physiotherapy or local hormonal injections. The drug is usually well tolerated and does not affect pituitary-adrenal function or immune response.

**Contraindications:** Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently.

**Warning:** If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

**Precautions:** Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage. Make regular blood counts. Discontinue the drug and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

**Adverse Reactions:** The most common are nausea, edema and drug rash. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

**Dosage in Painful Shoulder:** 600 mg. daily in divided doses for 2 to 3 days; 300 mg. daily thereafter. Usual duration of therapy: 2 to 7 days.

**Availability:** Tablets of 100 mg.

6562-VI(B)R

For complete details, please refer to full prescribing information.



Geigy Pharmaceuticals  
Division of Geigy Chemical Corporation  
Ardsley, New York



Geigy

Tandearil®  
oxyphenbutazone

helps osteoarthritic  
joints move again



3 out of 4 osteoarthritics com-  
pletely or markedly improved

Please see ad-  
joining page for  
brief prescribing  
summary

Sperling, I. L.: 3 Years' Experience  
with Oxyphenbutazone in the  
Treatment of Rheumatic Disorders,  
Applied Therapeutics 6:117, 1964.

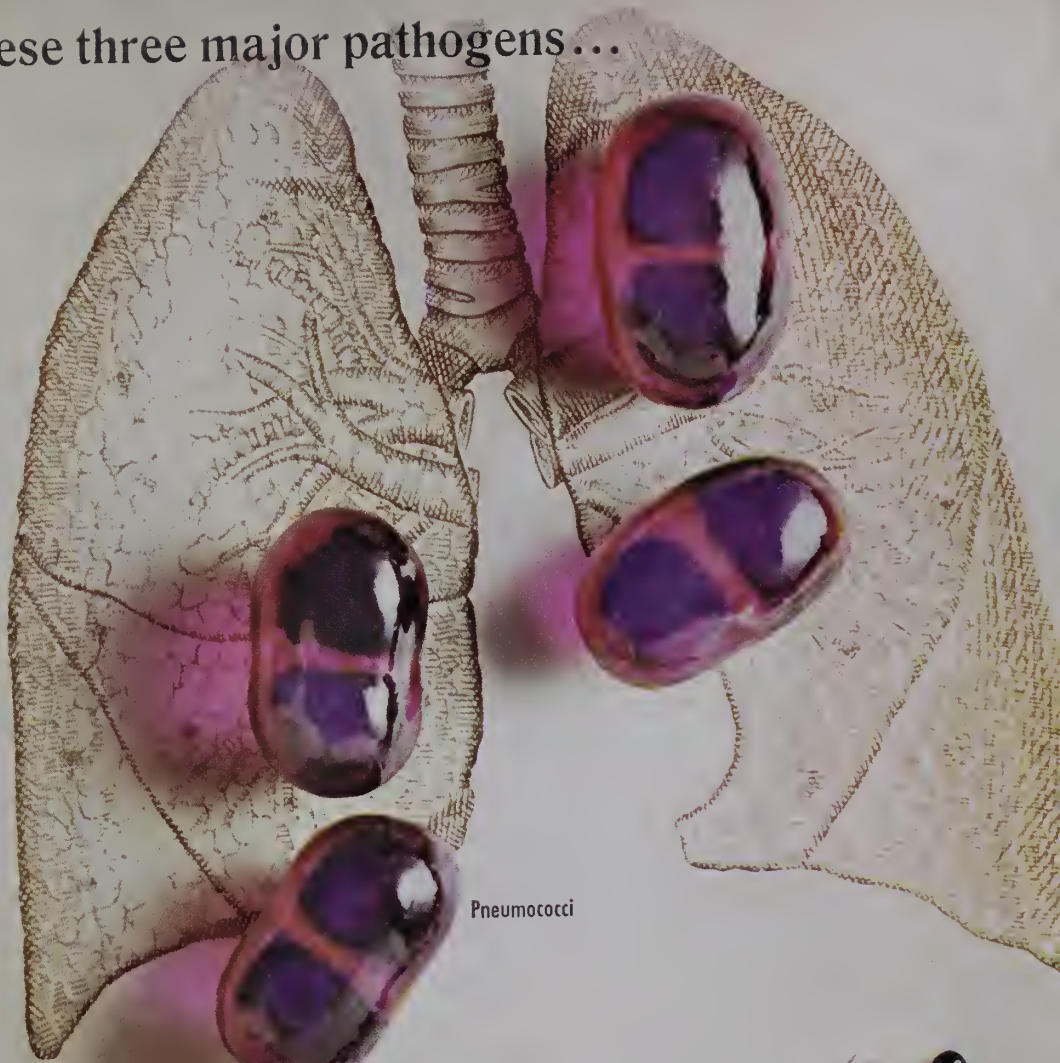
76.9% of 407 patients

Watts, T. W., Jr.: Treatment of Rheu-  
matoid Disorders with Oxyphenbu-  
tazone, Clin. Med. 73:65, 1966.

84.6% of 39 patients

TA-4919 PC

Against these three major pathogens...



Pneumococci

Penicillin-Sensitive  
Staphylococci



Beta-Hemolytic  
Streptococci



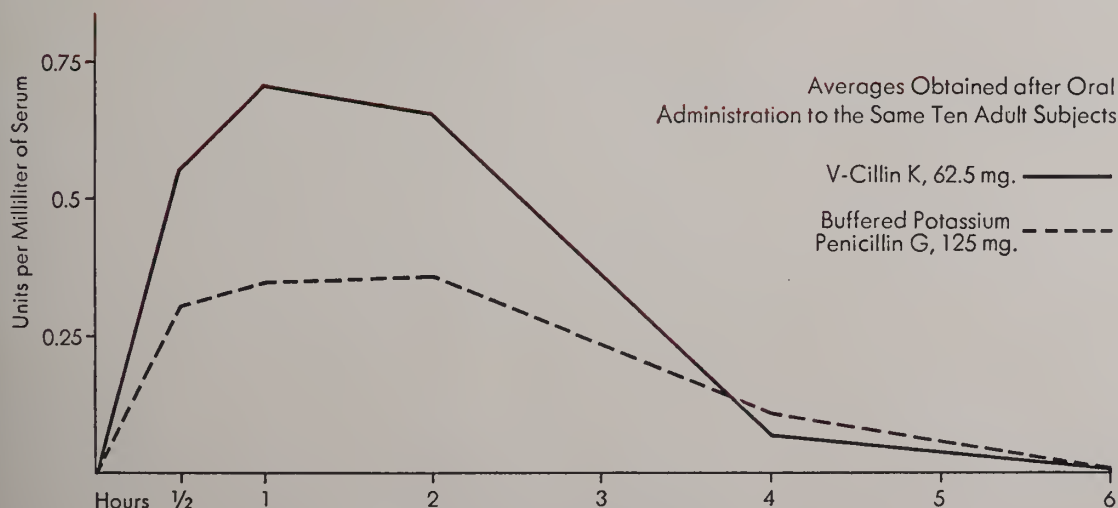
# V-Cillin K<sup>®</sup> provides dependable oral antibacterial activity

because it combines a high degree of in-vitro activity...

Antibiotic	Staph. Aureus (Penicillin-Sensitive)		Streptococcus, Group A		Diplococcus Pneumoniae	
	Median MIC (mcg./ml.)	Range	Median MIC (mcg./ml.)	Range	Median MIC (mcg./ml.)	Range
Penicillin V	0.02	0.02-0.04	0.02	0.003-0.4	0.01	0.005-0.2
Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxacillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Claxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med., 269:1019, 1963.

with high blood levels, even in the presence of food



Adapted from Griffith, R. S., and Block, H. R.: Current Ther. Res., 6 253, 1964.

**V-Cillin K<sup>®</sup>**  700636  
Potassium Phenoxyethyl Penicillin

(See next page for prescribing information.)



# New 500 mg. tablets...a more convenient way to give high doses



**Description:** V-Cillin K is the potassium salt of V-Cillin® (phenoxy-methyl penicillin, Lilly). This chemically improved form combines acid stability with immediate solubility and rapid absorption. Higher serum levels are obtained more rapidly with this penicillin than with equal oral doses of penicillin G. The higher serum levels and acid stability of V-Cillin K make it a more dependable penicillin for oral use.

V-Cillin K, Pediatric, is an oral solution of clinically proved V-Cillin K in teaspoon dosage form. When mixed as directed, each 5 cc. (approximately one teaspoonful) will contain 125 mg. (200,000 units) phenoxyethyl penicillin as the potassium salt.

**Indications:** V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

**Contraindication:** V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

**Warnings:** In rare instances, the use of penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type of reaction appears more frequently in patients with a history of sensitivity reactions to penicillin and in those with bronchial asthma or other allergies. Resuscitative drugs should be readily available for emergency administration. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for relief of immediate allergic manifestations and antihistamines and corticosteroids for delayed effects.

**Precautions:** V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy.

In prolonged therapy with penicillin, and particularly with high parenteral dosage schedules, frequent evaluation of the renal and hematopoietic systems is recommended.

In suspected staphylococcus infections, proper laboratory studies (including sensitivity tests) should be performed.

The use of penicillin may be associated with the overgrowth of penicillin-insensitive organisms. In such cases, its administration should be discontinued, and appropriate measures should be taken.

**Adverse Reactions:** Although serious allergic reactions are much less common with administration of oral penicillin than with intramuscular forms, manifestations of penicillin allergy may occur.

Penicillin is a substance of low toxicity, but it does possess a significant index of sensitization. The following hypersensitivity reactions associated with the use of penicillin have been reported: skin rash, ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; and reactions resembling serum sickness, including chills, fever, edema, arthralgia, and prostration. Severe and often fatal anaphylaxis has occurred (see Warnings). Hemolytic anemia, leukopenia, thrombocytopenia, and nephropathy are rarely observed side-effects and are usually associated with high parenteral dosage.

**Administration and Dosage:** For Tablets V-Cillin K and for V-Cillin K Pediatric, the usual dosage ranges from 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants the daily dosage may be 50 mg. per Kg. of body weight divided into three doses.

Beta-hemolytic streptococcus infections without associated bacteremia may be treated with 200,000 to 400,000 units three times a day. Therapy should be continued for a minimum of ten days to prevent development of rheumatic fever and/or other serious complications. Dosage for routine streptococcus prophylaxis in patients with a history of rheumatic fever or congenital heart disease may be 200,000 units once or twice daily. When such patients undergo tonsillectomy, tooth extraction, or other minor surgery, the prophylactic dose should be 500,000 units every six hours given two days prior to surgery and two days postoperatively. If oral medication is not feasible on the day of surgery, parenteral therapy should be considered. Mild to moderately severe pneumococcus pneumonia has been treated effectively with 250 mg. every six hours.

In staphylococcus infections, 400,000 units or more should be given every six to eight hours in conjunction with indicated surgical procedures.

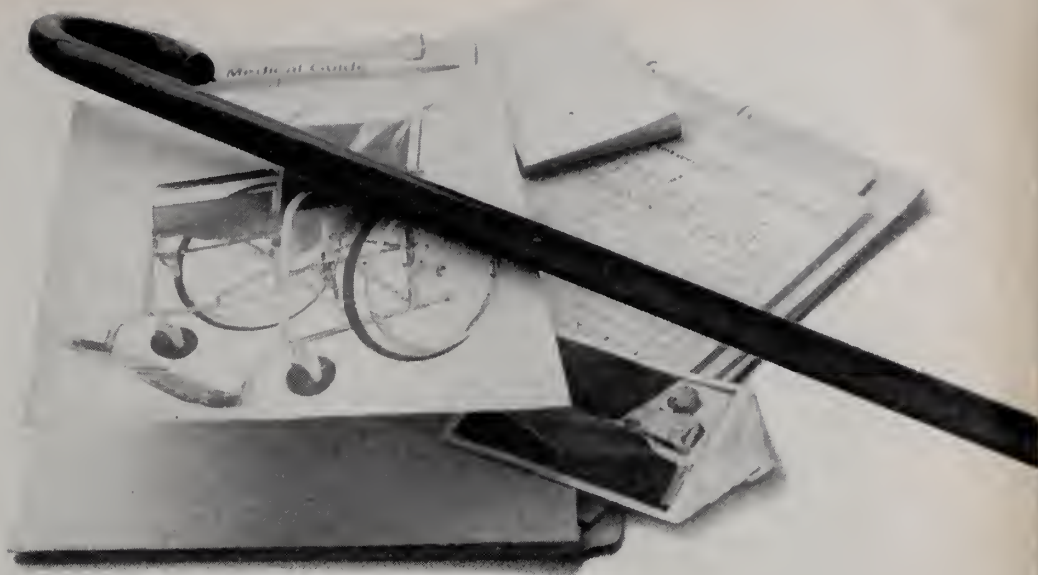
For gonorrhea in males, 500 mg. (800,000 units) every four hours three doses may be employed; in females, 500 mg. every four hours for six doses are recommended. Refractory infections generally respond to a second treatment three to four days following completion of first. Treatment of gonorrhea with severe complications should be individualized, with prolonged and intensive treatment. Patients with suspected lesion of syphilis should have a dark-field examination before receiving penicillin and monthly serologic tests for a minimum of three months.

**How Supplied:** Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units) bottles of 50 and 100; and 250 mg. (400,000 units) and 500 mg. (800,000 units), in bottles of 24 and 100.

V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,000 units) 5 cc. of solution, in 40, 80, and 150-cc.-size packages. [03]

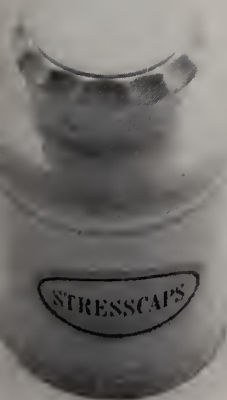
Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.





# in chronic illness

*B and C vitamins are part of therapy:* An imbalance of water-soluble vitamins and chronic illness often go hand in hand. STRESSCAPS capsules, containing therapeutic quantities of vitamins B and C, are formulated to meet the increased metabolic demands of patients with physiologic stress. In chronic illness; as with many stress conditions, STRESSCAPS vitamins are therapy.



## Stresscaps®

Stress Formula Vitamins Lederle



Each capsule contains:  
 Vitamin B<sub>1</sub> (as Thiamine Mononitrate) 10 mg  
 Vitamin B<sub>2</sub> (Riboflavin) 10 mg  
 Vitamin B<sub>6</sub> (Pyridoxine HCl) 2 mg  
 Vitamin B<sub>12</sub> Crystalline 4 mcgm  
 Vitamin C (Ascorbic Acid) 300 mg  
 Niacinamide 100 mg  
 Calcium Pantothenate 20 mg  
 Recommended intake: Adults, 1 capsule daily, for the treatment of vitamin deficiencies. Supplied in decorative "reminder" jars of 30 and 100; bottles of 500.

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700807

### Guest Editorial . . . .

#### "My Doctor Advised Me..."

**F**REQUENTLY a patient will, upon visiting his dentist, say, "My doctor (meaning physician) advised me to have all of my teeth removed." The finality of the patient's statement leaves no doubt as to what the purpose of his visit is.

This profound influence that the physician has over his patient is a source of much envy from the dental profession. Case after case can be cited where the patient, after having submitted to a dental diagnostic survey involving roentgenograms, study models, pulptests, photographs, a personal medical history, clinical charts and studies, hesitated or refused to accept his dentist's recommendation that his teeth do not have to be extracted. He is oftentimes prone to reject the advice of the specialist who, after so thorough an examination, knows more about his oral problem than anyone else in the world and accept that of the physician whose recommendation is based on a limited clinical inspection!

The saddening advice that all teeth must be extracted portends a sadder fate—that of being edentulous for life or suffering for life the sentence of wearing a set of slipping, sliding, uncomfortable, poorly functioning substitutes—full dentures. While such a fate cannot always be avoided, a brief reevaluation of what dentistry has to offer may be of value in aiding the physician to be kinder in advising the potential dental patient as to his specific needs.

The advent of miracle drugs, newer dental materials, jet propelled cutting instruments, high speed evacuators, newer approaches to endodontic and periodontal therapy, transplantation and replantation have made possible the complete rehabilitation of the disease ravaged dentition without resorting to the finality of total extractions and subsequent use of dentures. These phenomenal advances along with (1) public water fluoridation, (2) topical applications of fluorides, and (3) the incorporation of fluorides in toothpastes have had a profound effect on controlling the young dental patient's greatest problems—caries.

With the onset of middle age, the pendulum of dental destruction swings away from the hard tissue diseases to those of the periodontium. As is true of dental caries, tooth loss from breakdown of supporting tissues can be reduced to a minimum if early diagnosis and treatment are instituted. These diseases are generally classified as being of (1) local or (2) systemic origin. More than 80% of the teeth lost because of periodontal disease can be traced to some local etiology totally controllable by the dentist.

Clinical inspection can be and often is misleading. The sordes and tarter laden dentition can be restored to look and function as well as any shown in a model's smile. Drifting teeth can be repositioned and anchored once the biophysical forces involved in producing their abnormal positions are identified and eliminated.

Devitalized teeth—even those having abscesses and granulomas at their apices may be treated and restored to normal health and function. The practitioner who embraces the philosophy of preventive dentistry regards as inviolable the finely controlled biophysical equilibrium maintained by the presence of the normal natural dentition. Total extractions should be resorted to only when negligence, accident or advanced disease have rendered ineffective or impossible restorative dental treatment.

HUGO A. OWENS, D.D.S.

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*600 Green Street  
Portsmouth, Virginia*



# Experiences with Transthoracic and Transvenous Pacemakers in a Large Community Hospital

LEVI OLD, JR., M.D.  
DONALD W. DREW, M.D.  
Norfolk, Virginia

*A variety of pacemakers are now available which give good results. Transvenous pacemakers seem better than transthoracic pacemakers.*

**L**ONG-TERM CONTROL of the heart rate by means of implantable pacemakers has become established as the most effective treatment of complete heart block. Coordination of several disciplines, including cardiology, surgery, biophysics and electronic engineering has been essential to the achievement of this dramatic advance in modern medicine.

The inherent rhythmicity of the heart is mediated from the primary pacemaker in the sino-atrial node in the sulcus terminalis through the atrioventricular node in the fibro-muscular atrioventricular septum. Then the A.V. node extends inferiorly in the ventricular septum as the bundle of His dividing into the right and left bundles and then terminating in the Purkinje network in the myocardium.

Heart block may be first degree which is prolonged A-V conduction with a prolonged PR interval in the EKG. Heart block may be second degree in which only a portion of the impulses are conducted. However, the most significant disease is third degree or complete heart block. The atrial

impulse is not transmitted to the ventricle and another idiorhythmic center in the ventricle with a less rapid intrinsic rate will automatically begin to pace the heart. For unknown reasons, the idiorhythmic center located in the ventricle sometimes does not begin to discharge immediately and a pause occurs. During this pause, there is ventricular asystole until the idioventricular focus is aroused.

Thus it is obvious that the individual with impaired A-V conduction or complete A-V block is potentially liable to recurrent episodes of ventricular asystole. This may lead to cerebral ischemia with syncopal episodes, the so-called Adams-Stokes syndrome.

There are cases of congenital A-V block in infants and children with underlying anatomical malformations of the heart. There may be rare cases of a congenital defect in the conduction system itself, unaccompanied by any anatomical malformation of the heart. Cardiac surgery may lead to transient heart block secondary to edema of the conduction mechanism or permanent heart block. However, the major causes of complete heart block are medical in nature. Digitalis is probably the most common cause of heart block and coronary disease is probably the most common disease process. Granulomatous diseases and syphilis are less common etiological agents at the present time.

Figure 1 shows a typical electrocardiogram from a patient with complete heart block and it will be noted that the atrial P wave is independent of the QRS complex, which is at a rate of approximately 35.

The medical therapy of complete heart block certainly includes epinephrine or,

Presented at the Annual Meeting of The Medical Society, Williamsburg, November 9, 1966.

better yet, isoproterenol. Occasionally, digitalis is indicated for those patients with secondary congestive heart failure although, of course, as previously mentioned, digitalis itself, in excessive dosage, can be a cause

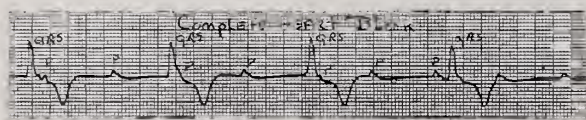


Fig. 1

of heart block. Some authorities believe that steroids are indicated in complete heart block especially where there may be edema near the bundle of His as in acute posterior myocardial infarction. Most experts believe that quinidine is contraindicated.

Historically, the earliest description of electrical stimulation of body tissues is provided by John Aldini describing the application of electricity by medical practitioners in the Eighteenth Century to arouse the dead. A short time later Vassali, working with recently decapitated criminals, was able to obtain myocardial contractions by placing one of the extremities of a silver arc on the surface of the heart and the other on the spinal marrow. However, it was not until 1952 in Boston that the pioneer work of Dr. Paul Zoll brought forth the modern era of pacemakers. Zoll successfully resuscitated a heart in ventricular stand-still by external electrical stimulation while employing an external pacemaker.

Artificial pacemakers can be defined as devices initiating ventricular contractions by application of repetitive electrical impulses to the heart, each being followed by a ventricular contraction. The type of electrical stimulation of the heart can be broadly classified into the indirect type administered through the chest wall or the direct type applied to the heart wall itself. The radio frequency pacemaker and the induction coupled pacemaker are two systems of cardiac pacing which employ external electronic equipment. In recent months, some attention has been given to implantable

pacemakers which are energized from the heart wall itself. Of primary concern in this paper are the internal pacemakers and the four comparable commercially available permanent implantable pacemakers in wide use today are the Electrodyne, developed by Dr. Paul Zoll; General Electric, developed by Dr. Adrian Kantrowitz; Cordis, developed by Dr. David Nathan; Medtronic, developed by Dr. William Chardack. The Medtronic Company also manufactures the transvenous non-thoracotomy pacemakers.

The most complicated of the pacemakers is the Cordis unit which has an atrial detector electrode monitoring the atrial P wave and the stimulus pulse of the pacemaker is coordinated to fall at the physiologically optimum time following atrial systole and thus the patient's own atrium regulates the patient's own ventricle. Howard Frank, M.D., Dr. Zoll's Boston surgical associate, questions whether the small increase in performance obtained by this synchronous pacing justified the increased complexity of pacemaker design and greater potential for electronic failure.

Currently, it is felt that the primary indication for permanent electronic cardiac pacemaker implantation is chronically recurrent or permanent A-V block with symptoms and one or more syncopal attacks of Adams-Stokes syndrome. The secondary indications are heart failure or poor mental or renal function, if these can be improved temporarily with a cardiac pacemaker, and occasionally associated fatigue, weakness or giddiness may be indications.

The intravenous bipolar cardiac catheter electrode has proved extremely useful as an adjunctive measure. This is easily inserted via a small peripheral venous cutdown in the routine cardiac catheterization fashion and can be manipulated into proper position in the right ventricular apex under fluoroscopic control with minimum difficulty. Certainly, this is helpful in the transient secondary complete heart block of myocardial infarction. It also can be applied to



the transient heart conduction system edema after cardiac surgery. This method can be a useful aid in the medical treatment of Adams-Stokes syndrome. Preoperatively, prior to thoracotomy pacemaker implantation, the patient can sometimes be brought into better general condition with help from the intravenous bipolar cardiac catheter electrode. Prodigious diuresis has been noted on this preoperative management program in patients with complete heart block and congestive failure.

The vexing clinical problem of cardiac arrest during anesthesia induction for permanent thoracotomy pacemaker implantation can be obviated by control via an intravenous bipolar cardiac catheter electrode. Therefore, at the present time, the usual method is to induce anesthesia under the protection of catheter electrode pacing and a left antero-lateral thoracotomy incision is made through the appropriate interspace to adequately expose the apex of the left ventricle. The pericardium is opened well anterior to the phrenic nerve and, incidentally, care is taken to keep the pacemaker well away from the phrenic nerve in order to prevent postoperative electrically stimulated and troublesome diaphragmatic motion. The implantable pacemaker electrodes are attached to the apex of the left ventricle anteriorly or the left ventricular base posteriorly. The pacemaker mechanism is placed in a surgically created left pectoral pocket or in the upper abdominal wall.

Figure 2 shows a completed thoracotomy implanted pacemaker. Figure 3 is a postoperative chest x-ray of such a case to illustrate the intravenous bipolar cardiac electrode pacer extending from the left arm into the right ventricular chamber. This will be removed postoperatively when good stabilization is assured with the implanted pacemaker and, of course, the left thoracotomy underwater drainage tube will be removed several days later.

The postoperative thoracotomy care is basically routine but hypotension should be

carefully avoided. A clean tracheo-bronchial tree should be maintained even if tracheal aspiration, bronchoscopy, or tracheostomy are necessary. If neurological

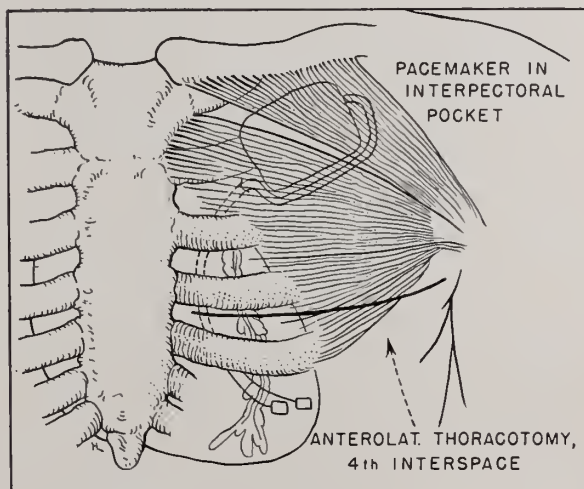


Fig. 2

deficit sequelae occur, these can be managed with hypothermia and appropriate medica-



Fig. 3

tions for reducing cerebral edema such as "Urea" or "Mannitol".

The transvenous non-thoracotomy im-

plantable pacemaker using the Medtronic equipment as suggested by surgeon William

Chardack of Buffalo, New York and his electronic associate, Greatbatch, has much

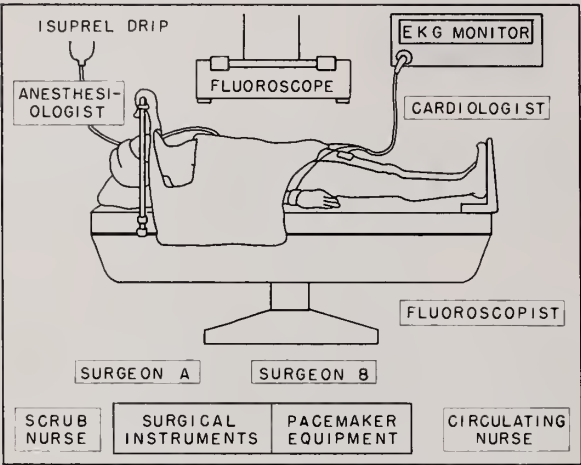


Fig. 4

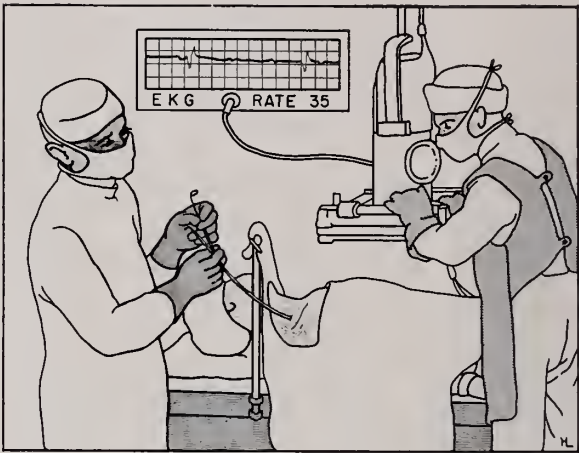


Fig. 7

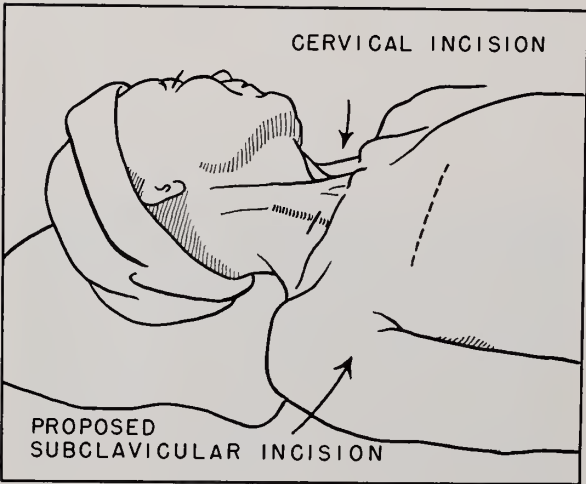


Fig. 5

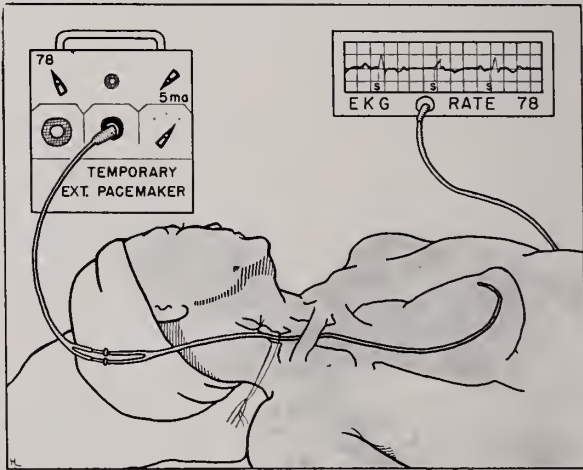


Fig. 8

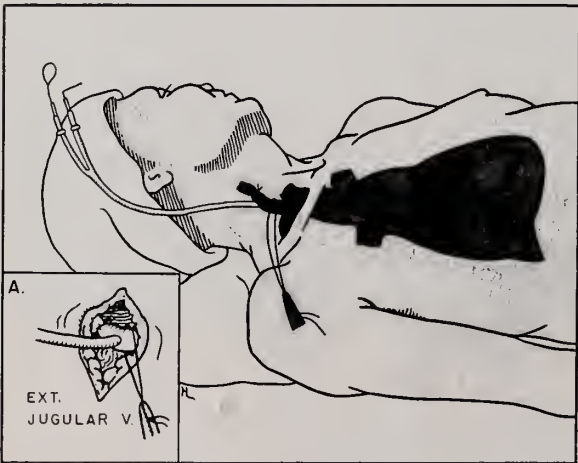


Fig. 6

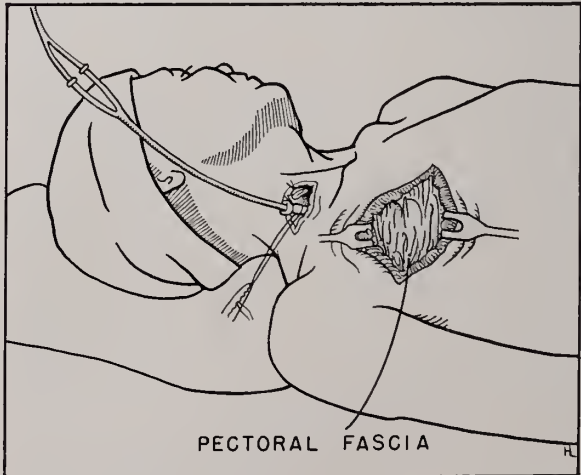


Fig. 9



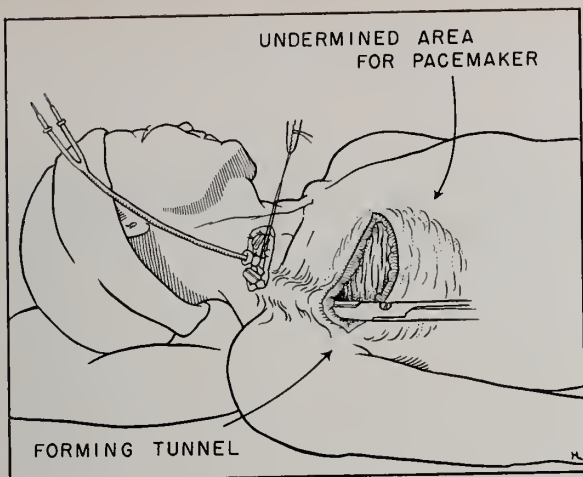


Fig. 10

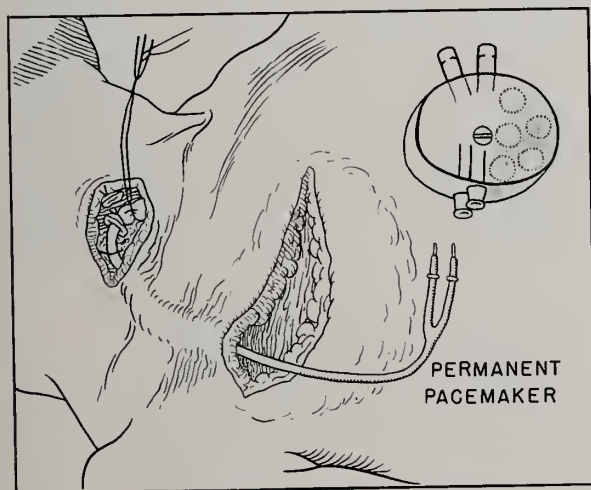


Fig. 11

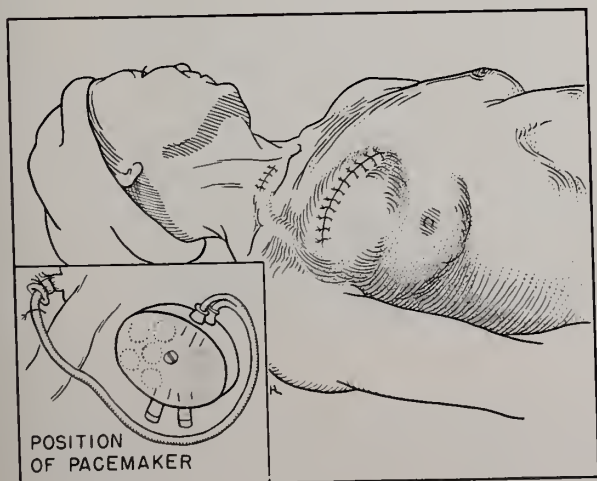


Fig. 12

to commend it. Figures 4 through 12 illustrate the essentials of the technique.

The procedure is carried out under local anesthesia in the fluoroscopy room with the best conditions of sterility possible. The patient is prepped and draped for exposure of the right neck and right upper chest with the anesthesiologist standing by and managing vital sign monitoring, isoproterenol drip, etc. The cardiologist monitors the electrocardiogram while the surgeons and fluoroscopist manipulate the venous cardiac catheter into position.

A small right supraclavicular transverse incision is made for exposure of the right external jugular vein. On occasion, the internal jugular vein has been used but usually the external is preferred. Some have used the cephalic vein and rarely the greater saphenous vein in the groin. The cardiac catheter electrode is manipulated into the apex of the right ventricle with fluoroscopic guidance. Sometimes, this is difficult, and persistence is necessary. The stylet wires inside the catheter electrode allow temporary stability and ease of manipulation but these are preferably withdrawn at the completion of the procedure since the catheter electrode with its increased stiffness may erode through the ventricular myocardium leading to cardiac tamponade.

After the transvenous cardiac electrode is properly positioned in the right ventricular apex with a slight turn anteriorly and seems to be well secured, the electrode is connected to a temporary external pacemaker with a low milliamperage. The patient is then shifted in various positions within the limits of sterile technique to be certain that catheter dislodgement and cessation of pacing (cessation of cardiac capture) does not occur.

After cardiac capture and good pacing are assured, an incision is made in the right

subclavicular area and a subcutaneous or subpectoral pocket is created for insertion of the pacemaker mechanism. A tunnel is made with a large clamp and the cardiac catheter electrode is drawn down into the pocket. The transvenous cardiac electrode is connected to the pacemaker mechanism and the connection is sealed. The Medtronic equipment has two small knobs which regulate the rate and power and these can be adjusted postoperatively by percutaneous insertion of a Keith skin-suture needle.

Figure 13 shows a postoperative x-ray following insertion of the Medtronic-Char-dack pacemaker. Figure 14 shows a lateral view with the electrode in good position in the anterior apex of the right ventricle.

Improvements in the design and components of the implantable pacemakers have resulted in a higher degree of reliability and



Fig. 13

reduction in the possibility of pacemaker failure. However, wire or lead breakage has been the main cause of pacemaker malfunc-

tion. A number of very ingenious techniques have been described to diagnose the exact source of pacemaker malfunction.



Fig. 14

Component break-down has not been a major problem but on occasion, displacement, fibrosis, or local electrolysis can occur. Of course, infection about the foreign body is a dreaded complication. In the lay press some months ago, a report of external electrical stimulus producing ventricular fibrillation caused some excitement but this has not been a true medical problem. To date, the intravenous cardiac catheter electrode of the Medtronic transvenous pacemaker has not been a source of major difficulty such as thrombo-embolic disease. However, of course, more time must elapse before a final decision can be made on this potentially serious problem.

Figure 15 illustrates a survey of our personal results with the thoracotomy pacemakers which, as can be noted, were all of the Zoll electrodyne fixed rate type. The first and last patients are alive and well, but the other results have been poor.

Figure 16 illustrates our results with the non-thoracotomy Medtronic-Chardack pacemakers in a group of elderly patients

tion with a severe myocardial infarction and died.  
In summary, it can be said that in this

THORACOTOMY PACEMAKERS					
(STOKES ADAMS REFRACTORY TO MEDICAL TREATMENT)					
(1) R.C.	71 WF	CHEST WALL NEEDLES PACER	10/13/62 ELECTRODYNE	2/5/66 BATTERY REPLACEMENT	ALIVE & WELL
(2) J.W.H.	57 WM	CATHETER PACER	4/24/65 ELECTRODYNE	GLOMERULO- NEPHRITIS	6/15/65 DEATH RENAL FAILURE
(3) M.H.	67 CF	CATHETER PACER	4/27/65 ELECTRODYNE	WIRE FAILURE NOT RESPOND TO UNIPOLAR CONVERSION	REMOVAL 12/13/65 ALIVE ON MEDICAL R <sub>x</sub>
(4) H.C.	65 WM	CATHETER PACER	7/14/65 ELECTRODYNE	POSTOP LEG PHLEBITIS	8/28/65 SUDDEN DEATH AT HOME
(5) A.S.	71 WF	CATHETER PACER	8/10/65 ELECTRODYNE	POST OP C.V.A.	9/7/65 DEATH AT HOME
(6) H.P.E.	71 WM	CATHETER PACER	10/13/65 ELECTRODYNE	POST OP HEMOTHORAX	POSTOP DEATH
(7) W.G.O'N	60 WM	CATHETER PACER	3/9/66 ELECTRODYNE		ALIVE & WELL

Fig. 15









NON-THORACOTOMY PACEMAKERS					
(STOKES-ADAMS REFRACTORY TO MEDICAL TREATMENT)					
(1) D.M.	74 WM	PRE OP CATHETER PACER	9/25/65 MEDTRONIC- CHARDACK	CHEST WALL HEMATOMA ASPIRATED	ALIVE & WELL
(2) L.R.	83 WF		10/5/65 MEDTRONIC- CHARDACK	10/16/65 POSTOP CATHETER SHIFTED	ALIVE & WELL
(3) B.M.	85 WM		2/14/66 MEDTRONIC- CHARDACK		7/21/66 DEATH MYOCARDIAL INFARCTION
(4) G.C.	65 WF		3/25/66 MEDTRONIC- CHARDACK		ALIVE & WELL
(5) J.M.	89 WM		6/25/66 MEDTRONIC- CHARDACK		ALIVE & WELL
(6) S.H.	82 WF		7/20/66 MEDTRONIC- CHARDACK	STAPHY. SEPTICEMIA	ALIVE & WELL

Fig. 16

with excellent results. Note that one patient was 89 years of age. Our only failure, the third patient, an 85 year old white male was re-hospitalized five months after implanta-

golden age of cardiac surgery extending over the past quarter century, no victory has been more dramatic or more complete than the triumph of the cardiac pacemaker



over complete heart block and Adams-Stokes disease. External pacemakers can be used. The intravenous cardiac catheter electrode connected to an external pacemaker has value. Implantable thoracotomy pacemakers are good but the non-thoraco-

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NON-THORACOTOMY PACEMAKERS						
SINCE ORIGINAL DATA						
INITIALS	COLOR AGE SEX	PREOP CATHETER PACER	DATE OF INSERTION	TYPE	COMPLICATIONS	RESULT
S.S.	70 WF	NO	12/16/66	MEDTRONIC CHARDACK	ADJUSTMENT OF CATHETER — TWICE	ALIVE & WELL
B.W.	81 WF	YES	12/30/66	MEDTRONIC CHARDACK	ADJUSTMENT OF CATHETER — TWICE	ALIVE & WELL
S.B.	66 WF	YES	1/4/67	MEDTRONIC CHARDACK	VENTRICULAR TACHYCARDIA 14th PO DAY	DIED
R.M.	68 WF	YES	1/23/67	MEDTRONIC CHARDACK	ADJUSTMENT OF CATHETER — ONCE	ALIVE & WELL
B.W.	80 WF	YES	2/17/67	MEDTRONIC CHARDACK	NONE	ALIVE & WELL
C.M.	55 WF	NO	3/16/67	MEDTRONIC CHARDACK	NONE	ALIVE & WELL
E.P.	71 WF	NO	3/17/67	MEDTRONIC CHARDACK	NONE	ALIVE & WELL
R.W.	70 CF	NO	4/1/67	MEDTRONIC CHARDACK	NONE	ALIVE & WELL
M.D.	89 WF	NO	4/4/67	MEDTRONIC CHARDACK	SHOCK DURING INSERTION	ALIVE & WELL

Fig. 17

tomy transvenous pacemakers are probably preferable. Certainly the final chapter in this dramatic story has not yet been written with our colleagues in allied disciplines bringing forth further advances each day.

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### Let's Reminisee!

*Virginia Medical Monthly, March 1881.*

The Southwest Virginia Medical Society have made a somewhat new departure, which is worthy of imitation by other Societies. "Indigent persons, suffering from disease, will be allowed to come before the Society for examination, be prescribed for, and operated upon when an operation is necessary, *free of charge*." This makes the Society practically a *clinical* Society—a great desideratum in our towns and county societies. If the doctors connected with the Society will properly urge this feature upon their patrons, it will be a means of doing much good to the indigent poor of the section, while the one in charge of such a case will have the benefit of the most capable consultation within reach. Each case brought before the Society should be a subject of general discussion before the prescription is written by the doctor in charge. Records of each case thus treated should be filed, and a report of it should be made to the Society when the patient is finally done with. Another benefit by this course, outside of the clinical advantages to the members of the Society itself, is this: It will show to the public at large that medical societies have other business to engage them than discuss tariff fees and the Code of Ethics. We commend the plan to other Societies . . . .



# Carbon Pneumoconiosis

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*Prolonged inhalation of an inert dust has produced fine nodulation on the chest x-ray and it may be that pulmonary dysfunction can result.*

THE EFFECT of inhaled carbon products on the lungs remains an unsettled question. However, there is evidence that under circumstances of heavy exposure, nodulation can be demonstrated on the chest roentgenogram. Excessive inhalation of a so-called inert dust may also produce reduction in pulmonary function, although this may be reversible.

This report concerns a study of 184 employees of the carbon plant of a paper company. The carbon is a by-product of the pulping process. Following the extraction of soda and other chemicals, the organic material is carbonized. The resulting ash is known as leacher carbon. Air and steam are used to develop internal porosity and surface area of the carbon particles. This product is activated charcoal which is used for absorption of impurities from air and liquid (water filtration plants). In the processing of this activated charcoal, there is considerable suspension of dust particles in the air to which the employees are exposed. It was because of the great amount of dust present in this plant that a chest x-ray survey was carried out in the spring of 1962.

Standard chest x-rays were taken by one of the mobile units of the Virginia State

Health Department. Of the 184 employees examined, there were 19 whose roentgenograms revealed a very fine nodulation distributed throughout both lungs. (Figure 1)



Fig. 1.

Environmental and occupational histories were taken of these 19 employees, but there was no evidence of any other dust exposure except for two employees who had been employed as coal miners for less than two years and another who had worked in an iron ore mine for four years. The past histories suggested no previous illnesses that could account for the nodulation; several had lived in an endemic area for histoplasmosis.

Six of the 19 had cough, wheezing, and dyspnea of varying severity. Each had smoked cigarettes (1 to 2 pkg. daily) for 20 to 40 years. In none of these had there been any aggravation of their respiratory symptoms while at work in the carbon plant; careful questioning failed to indicate that inhalation of the carbon dust produced an exacerbation of their pulmonary symp-

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toms. Physical examination revealed evidence of emphysema in these six cases: there was suppression of breath sounds and expiratory musical rales. No unusual abnormalities were noted in the nose in any of the 19 employees that would interfere with the normal "filtering" of dust particles; there were no mouth breathers.

Histoplasmin (1:100 dilution) and intermediate PPD tests were carried out on each of the employees with nodulation. The histoplasmin test was positive in five cases and the PPD was positive in 13 instances. Serological studies of the blood for histoplasmosis and blastomycosis were negative in each of the 19 cases.

In November, 1961, a study of the dust in the plant had been carried out by the Mellon Institute. A summary of their findings is as follows: "In evaluating this dust problem on the basis of free silica, it is found that no silicosis potential exists because there is no free silica in the dust. Further, if activated charcoal is classified as a nuisance dust, then the 14 mppcf found at the No. 1 aqua packer and the 31 mppcf found at the No. 2 Nuchar filling machine are well within the 50 mppcf recommended as the threshold limit value by the American Conference of Governmental Industrial Hygienists for nuisance dusts."

The conclusion drawn from the clinical evaluation and the examination of the suspended dust was that there was no other apparent cause of the nodulation except the carbon that had been inhaled and retained in sufficient amounts to produce the roentgen changes.

Pulmonary function studies were carried out on all 19 employees to determine the extent of pulmonary disability. The ventilatory studies included an M.B.C., a timed Vital Capacity, and the maximum mid expiratory flow rate (FEF 25%-75%). Arterial O<sub>2</sub> saturation, arterial pCO<sub>2</sub> and pO<sub>2</sub> determinations were made before and after exercise. The pulmonary ventilatory studies were essentially normal in 13 cases, and ab-

normal in six cases. Of these six cases with abnormal studies there was evidence of moderately severe airway obstruction in five and evidence of severe airway obstruction in one.

In eight cases arterial pO<sub>2</sub> at rest was slightly decreased but rose after exercise. This was interpreted as indicative of alveoli so crowded with carbon that there was perfusion of poorly ventilated alveoli; with exercise there was improvement in the ventilation and therefore an increase in the arterial pO<sub>2</sub>. The arterial pCO<sub>2</sub> was elevated in several of those with evidence of emphysema.

An attempt was made to determine whether there was any relationship of the emphysema in the six cases to either charcoal dust inhalation or to the smoking of cigarettes. Of the 19 cases, there were six cases of emphysema and these were among the 16 who were cigarette smokers; of the three who did not smoke, there was no evidence of airway obstruction. The number of cases involved is too small for any conclusion but there was no evidence that carbon dust alone was a causative factor in the development of emphysema.

From this information it was concluded that the inhaled carbon probably had not caused any significant disability as far as pulmonary function was concerned.

Table 1 shows the relationship of pulmonary nodulation to length of employ-

TABLE 1  
RELATION OF YEARS IN CARBON PLANT TO NODULATION

<i>Years</i>	<i>Employees</i>	<i>Nodulation</i>
0-5	46	0
5-10	59	6 (10%)
10-15	24	5 (21%)
15-20	43	7 (16%)
20-25	7	0
25+	5	1

ment in the carbon plant. There was no employee with nodulation who had worked for less than five years in the plant, suggesting that a period of five years exposure is

necessary for the development of this nodulation.

The frequency of the nodulation was greatest in the employees who had worked for 10-15 years in the dust. There was no apparent increase in the incidence with increasing length exposure above the 10-15 year period. This suggested an individual susceptibility as a major factor in the retention of the charcoal dust and that length of exposure was not the sole factor in the development of the nodulation.

Table 2 shows that there was no correla-

TABLE 2  
RELATION OF AGE TO PRESENCE OF NODULATION

<i>Age</i>	<i>Employees</i>	<i>Nodulation</i>
20-30 yrs.	7	0
30-40 yrs.	42	5 (12%)
40-50 yrs.	80	10 (12%)
50-60 yrs.	47	3 (6%)
60+	8	1 (12%)

tion between the age of the employee and the development of nodulation.

In six cases, previous chest x-rays were available and a review of these revealed no change over a period dating back as long as ten years. Despite continued exposure to the carbon dust there had been no detectable x-ray progression of these nodules. In no case was there any roentgen evidence to suggest conglomeration.

To obtain further information concerning the nature of the nodulation and its potential disabling effect, it was decided to advise one of these 19 employees to have a lung biopsy. The employee selected was one who was a heavy cigarette smoker and who had reduced arterial pO<sub>2</sub>, but normal ventilatory studies. He had worked in the carbon plant for sixteen years. A lung biopsy was performed on this employee in October of 1962. Microscopic studies\* revealed the following findings: "The most prominent lesion in all sections is the presence of extensive black pigment deposition

with virtually all of the particulate material being contained within the cytoplasm of large phagocytic macrophages. Many of the cells are so densely packed with the pigment that the nucleus is not recognizable and the appearance is that of a mere clump of pigment. These clumps are quite uniformly within the size range of the macrophages. The phagocytic cells are located in various sites within alveolar septa and there are sizable accumulations in the perivascular and peribronchial adventitial and in the subpleural region. The intra-alveolar clumps of cells frequently occupy as many as six or eight immediately adjacent spaces and produce an almost complete consolidation of these spaces. In one or two instances, the related terminal bronchus is included and also contains phagocytic macrophages in its lumen. Although the alveolar septa of these alveolar spaces and the adventitia of bronchi and vessels are somewhat thickened by the infiltration of phagocytic cells there is no recognizable increase in the amount of stromal or collagenous tissue in these areas. The Trichrome stains confirm the impression that there is no appreciable increase in collagenous tissue. The Prussian blue stains reveal no excessive amounts of iron containing material in the tissue." No silica crystals were noted microscopically using polarized light.

The final impressions at the completion of this study were that the nodulation was produced by the accumulation of carbon within the alveoli, that there was evidence of very slight fibrosis, and that no significant pulmonary disability had resulted from the carbon retained within the lungs.

Comment

Carbon is a common component of the air of urban communities and is inhaled in varying amounts by urban residents. The lungs of most adults contain gross evidence of carbon within the lungs and microscopically carbon is noted within the macrophages as well as extracellularly in the

\* P. C. Pratt, M.D., Chief of Laboratories, Ohio Tuberculosis Hospital, Columbus, Ohio.



parenchyma of the lung. Roentgen changes are not produced by this degree of carbon inhalation and apparently there is no reduction in pulmonary function. Carbon is classed as an inert dust and its inhalation is generally considered to be of no consequence. However, there is evidence that under circumstances of heavy inhalation roentgen nodulation may be produced and pulmonary disability may result.

Miller<sup>1</sup> in an unusual case report of carbon pneumoconiosis in a rubber factory worker in England described changes on chest x-rays that at a post mortem were shown to be due to carbon and pulmonary fibrosis. He also quoted from the foreign literature descriptions of carbon pneumoconiosis nodulation on chest x-rays by several observers (Lochkemper and Teleky,<sup>2</sup> Gartner and Brauss,<sup>3</sup> Koelsch,<sup>4</sup> Meiklejohn,<sup>5</sup> and Vaccarrezza.<sup>6</sup>) Therefore, the presence of a fine nodulation on a chest x-ray of individuals exposed to heavy concentration of carbon dust is not a new observation.

Experimentally Nau, et al.<sup>7</sup> were able to produce nodulation on chest x-rays of laboratory animals by exposing them to prolonged inhalation of high concentration of furnace carbon black. Histologically fibrosis was absent or minimal.

Boren<sup>8</sup> has demonstrated in the experimental animal that charcoal alone produces no significant pathological changes; however, he did show that charcoal with absorbed NO<sub>2</sub> produced tissue damage and centrilobular emphysema. This suggests that the centrilobular emphysema of coal-miners pneumoconiosis is probably due to the inhalation of noxious gases with the coal dust and not to the coal dust alone. This would explain the wide variation in the incidence of emphysema among the different mines.

The demonstration of fine nodulation on the chest roentgenograms of 19 individuals exposed to heavy inhalation of activated charcoal is therefore not an unexpected experience. The absence of any significant pulmonary disability that could be attrib-

uted to the inhaled charcoal indicates that it is an inert dust; however, the presence of a reduced arterial pO<sub>2</sub> in three cases suggest that there is perfusion of poorly ventilated alveoli in some cases. This is probably a reversible situation although future studies will be necessary to answer this question. These 19 employees have been removed from the carbon plant and will be followed regularly with roentgenograms and pulmonary function studies in order to determine the course of their pulmonary lesions in an effort to determine whether the roentgen changes and whether the reduced arterial pO<sub>2</sub> are reversible.

One of the problems in determining the disability produced by any material inhaled by man is that it is extremely difficult to find clinical material that has been exposed to a single inhalant. A major consideration in many cases is the impossibility of separating the effects of cigarette smoking on pulmonary function from the effects of other inhalants. In my experience there is a higher incidence of cigarette smoking in occupations where there is noxious fumes, dust, or smoke. This apparently is due to the fact that cigarette smoke is more pleasant to inhale than these other inhalants and the cigarette smoke makes these inhalants less objectionable.

Wilson et al.,<sup>9</sup> Blackburn,<sup>10</sup> Franklin and Lowell,<sup>11</sup> and Bowers<sup>12</sup> studied individuals who were normal except for being cigarette smokers. Their studies of ventilatory function and diffusing capacity revealed significant reduction among individuals who had smoked heavily for years. Sanders<sup>13</sup> very aptly pointed out that "preliminary findings suggest that heavy tobacco smoking is a major cause of chronic lung disease and that no longer is it valid to draw conclusions on the effects of occupational dust and air pollution exposures without also considering the smoking habits of those exposed."

The major defense of the lungs against inhaled dust is the action of the ciliated epithelium of the tracheo bronchial tree. In

normal individuals it is possible to overcome this defense by exceedingly heavy inhalation of even an inert material as charcoal with the result that considerable dust may be retained within the lung. Dust that reaches the alveoli is removed by phagocytic action of the macrophages that migrate to the terminal bronchi and are carried away by activity of the ciliated epithelium; some of the dust passes into the lymphatic system. A part of the dust remains free within the alveoli or within the macrophages. In many chronic inflammatory diseases of the bronchi the ciliated epithelium is partially destroyed and under these circumstances the retention of inhaled dust is considerably greater. Toigo et al.<sup>14</sup> using carbon labeled with I131 "demonstrated in preliminary observations that the clearance of carbon particles is faster in normal than in subjects with chronic lung disease." There was no clinical evidence in the 19 cases presented in this report that any underlying pulmonary disease was present to be a factor in the retention of the charcoal. Hilding<sup>15</sup> has demonstrated that cigarette smoking among normal individuals interferes with the effectiveness of the ciliated epithelium and this may be a significant factor in the retention of carbon dust in heavy cigarette smokers. However in the cases presented in this report there is no evidence to suggest that cigarette smoking played any part in the development of the nodulation among the carbon plant employees.

### Summary

A survey of 184 employees of the carbon plant of a paper company revealed fine nodulation by chest x-ray in 19 employees. Environmental and occupational histories indicated no cause of this nodulation except retained carbon. A lung biopsy confirmed this clinical impression. There appeared to be some correlation between the length of exposure to the carbon dust and the roentgen nodulation as no employee with less than five years exposure was found to have nod-

ulation. The maximum incidence of nodulation was noted in the employees who had worked from 10 to 15 years in the plant. A review of previous chest x-rays in six cases revealed no apparent progression with the continued exposure to the dust.

These 19 employees with x-ray nodulation were subjected to pulmonary function studies. Ventilatory function studies revealed 6 instances of airway obstruction among 16 employees who had smoked cigarettes for over 20 years. Among the three non-smokers there was no evidence of airway obstruction. Arterial pO<sub>2</sub> was decreased in 4 cases but increased in each instance after exercise. It is likely that the alveoli in these cases were so crowded with carbon that there was perfusion of poorly ventilated alveoli.

The absence of any significant pulmonary fibrosis suggests that no disability is to be expected among this group although the exposure to inhaled charcoal may be for many years. However the potential hazard of excessive carbon inhalation has been demonstrated in the recent report of Miller.<sup>1</sup> It is probable that pulmonary dysfunction can be produced by the "overloading" of the lungs with inert dusts. Future studies of these 19 employees, who have been removed from further carbon dust exposure will reveal whether the roentgen nodulation and the minor pulmonary dysfunction are reversible.

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### Breakfast, Alas!

The traditional hearty breakfast is out. All that remains as a reminder of past glory is fruit and the morning paper habitually glanced at between bites and sips, according to an editorial in a recent issue of *J.A.M.A.*

Once tables groaned with cream-drenched cereal, buttered toast, eggs, bacon or ham and coffee. The picture has undergone drastic changes. These began more than a decade ago when medical evidence pointed to an association between fat consumption and mortality from heart disease. The changes continued with each new "discovery" and various components of the abundant breakfast disappeared one by one.

First to go was the egg, its color betraying the offending cholesterol. Next went the fatty bacon and lipid-laden milk products, leaving behind the drabness of dry toast

and black coffee. Sugar then followed suit when studies suggested that dietary sugar is a major causative factor in the rise of blood lipid level and the increased incidence of coronary heart disease.

Now sugarless and creamless coffee appears to be on the way out. A positive association between coffee intake and the incidence of heart disease has been reported. Even the customary after-meal cigarette is a coronary suspect.

Will the paper be next to go? Emotional stress is high on the list of coronary culprits, so front page news and stock market reports should be kept out of sight if the newspaper is still to be read with impunity. —*J.A.M.A.*, Dec. 26, pp. 112-113. (Scher-  
ing Science Bulletin)



# Hydrocarbon Poisoning

## A Continuing Childhood Hazard

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*The incidence of hydrocarbon poisoning in young children is four times greater in the southeast than in other parts of the United States. The great majority of episodes are preventable by a few simple rules and an awareness of the hazard.*

KEROSENE, GASOLINE and other hydrocarbon products, account for one fourth of all fatal poisonings among children in the United States.<sup>1</sup> The problem is particularly evident in the Virginia part of the country where hydrocarbon substances are commonly used around the home and accessible to young children. It is estimated that the incidence in the southeast is four times greater than in other parts of the country.<sup>2</sup> In addition to the use of kerosene for curing tobacco, and for fire starting, it is frequently stored in soft drink containers that are attractive and available to children. The following patients seen at the University of Virginia Medical Center illustrate both common and unusual circumstances involved in hydrocarbon ingestion:

*Incident 1:* A three year old boy in good health ingested about half a cup of kerosene just before lunch. The fluid had accumulated in a cup placed behind the stove to catch drippings from a leaking fuel line. The boy immediately choked, coughed but did not vomit. He was given milk and

brought to the emergency room of the hospital where he was examined, found asymptomatic, and then returned home. Around 10 p.m. that evening he was observed to be feverish and breathing more rapidly; he was brought back to the hospital where he was discovered to have a kerosene breath and a right middle lobe pneumonia. Blood count and urinalysis were within normal limits. He was admitted overnight, placed in a croup tent with cool moist air, given antibiotics and decongestants. He recovered clinically within 12 hours and was discharged home recovered the following day.

*Incident 2:* A seven year old white male was admitted in severe respiratory distress following gasoline ingestion. While siphoning from a car tank, the child ingested an unknown amount of gasoline. His parents found him sometime later unconscious, convulsing and foaming at the mouth. He was induced to vomit and then was taken to the University of Virginia Medical Center where he was admitted. When seen initially at the hospital, the patient had marked respiratory distress, was vomiting blood-streaked material and appeared quite irritable. His skin was moderately cyanotic, particularly around the mouth. Examination revealed a pulse rate of 92 per minute, respirations were shallow and regular at 50 per minute and his temperature was 38 degrees centigrade. He responded only to painful stimuli. Chest examination revealed bilateral pneumonia in the basal areas. His admittance hematocrit was 38%, white blood count 17,800 with a normal differential, urinalysis showed innumerable red blood cells in the unspun sediment, and a one plus

albumin and sugar. All laboratory and physical findings slowly returned to normal over the next week and the child was discharged after this period.

*Incident 3:* An 18 month old boy was left alone in the yard during preparations for an outdoor barbecue. His parents suddenly discovered him gasping and choking, with a squeeze bottle of hydrocarbon firestarter nearby. He became progressively dyspneic and unconscious on the way to the hospital and died within two hours of the effects of hydrocarbon and pneumonia.

These three children demonstrate the wide variation in circumstances, clinical presentation and outcome involved with hydrocarbon ingestions today. The child usually drinks the poisonous fluid from a container within easy reach. Incident 2 demonstrates a less typical situation for young children, while the third incident demonstrates the lethal potential of the modern commercial "convenience" containers. Poisoned children are characteristically in the 18 month to four year age range, where exploration with the mouth is uncommon. The presence of the lethal liquid within easy reach, often in an attractive container is further potentiated by unobservant adults who may not be aware of either the hazard or the child's oral tendencies.

Hydrocarbons as a group are generally considered of low toxicity within the intestinal tract. Gerarde describes kerosene, mineral seal oil and many other hydrocarbons as consisting principally of alkanes or paraffin hydrocarbons varying in chain length.<sup>3</sup> The higher boiling point liquids have longer chain length and are generally less toxic. Kerosene and mineral seal oil contain 15 to 25% aromatic hydrocarbons, which are highly toxic when aspirated. The Federal Hazardous Substance Labeling Act requires special labeling of household products containing certain hydrocarbons. The statement "if swallowed, do not induce vomiting" relates primarily to the greatly

increased toxicity when aspirated, in contrast to their low toxicity when limited to the intestine.

Clinically, hydrocarbon poisoning affects many body systems. The central nervous system is not infrequently involved, as evidenced by drowsiness, muscular twitching, irritability, seizures, hyperthermia and coma. The poisoned child is often found in respiratory distress, choking, gagging and often with transient cyanosis. Rapid pulse and respiration rates are often seen within the first few hours of ingestion, although the complete picture of lung involvement is usually delayed. The lungs are a commonly involved tissue, usually with a bilateral pneumonitis from the aspirated hydrocarbon. Experimental evidence also indicates that systemic absorption takes place from the intestine, accounting for the damage to other tissues like the kidneys and the brain.

Despite the seriousness of hydrocarbon ingestion, the majority of children do quite well if treated symptomatically with fluids, cool moist surroundings and general supportive treatment. The child in coma presents a need for continual supervision and monitoring of vital signs until danger is passed. Prophylactic antibiotics are recommended by most clinicians, although definite proof of their efficacy is lacking. The use of steroids has benefited the patient when pneumonia is protracted and does not respond to antibiotics.

### Summary

The great majority of hydrocarbon poisoning episodes are preventable! Although no "vaccine" exists, the combination of circumstances including a curious, susceptible child, the hazardous hydrocarbon and the careless adult clearly indicates the means by which poisoning control can be achieved.

#### *Primary Prevention:*

1. Storage of hydrocarbons should always be out of the reach of young children.
2. Hydrocarbon should never be trans-

ferred from the original can either to an unlabelled or glass container.

3. Leaks in fuel lines should be repaired promptly.
4. Adults should become familiar with home hazards to young children and develop a home safety program with these in mind.
5. Public health campaigns to control hydrocarbons poisoning deserve particular emphasis due to the increased incidence of this problem among low income, rural families.

#### *Secondary Prevention:*

1. Children who are suspected of ingesting hydrocarbons should be promptly seen by a physician and followed closely until poisoning is definitely established or ruled out.
2. Vomiting or lavage should be discouraged due to the much greater danger of pulmonary aspiration toxicity compared

to the comparatively mild gastrointestinal reaction and absorption.

3. Supportive fluid, antibiotic and other therapy should be instituted early as indicated in order to limit the complications of hydrocarbon poisoning.
4. Children experiencing one poisoning episode should be carefully followed during the preschool age period due to the much greater likelihood of repeated poisoning compared to the rest of the child population.

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### **Study of Patients with Ataxia Telangiectasia Syndrome**

The cooperation of physicians is requested in the referral of patients for a study of Ataxia Telangiectasia Syndrome being conducted by the Medical Neurology Branch, National Institute of Neurological Diseases and Blindness, at the Clinical Center of the National Institutes of Health in Bethesda, Maryland.

Ataxia Telangiectasia Syndrome is an affliction of infants and young children characterized by ataxia, oculocutaneous telangiectases, and susceptibility to infections. Selected patients with this syndrome will be admitted to the Clinical Center for study

of their neurological and immune status, particularly immunoglobulin metabolism and for evaluation of endocrine function. Upon completion of their studies, patients will be returned to the care of the referring physician who will receive a full report of the studies done.

Physicians interested in having their patients considered for admission to this study may write or telephone: Dale E. McFarlin, M.D., Clinical Center, Room 10-N-310, National Institutes of Health, Bethesda, Maryland 20014. Telephone: 656-4000, Ext. 65930 (Area code 301)



# Phrenology and the Neurosurgeon

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*Phrenology has its place in neurological diagnosis.*

NEUROLOGICAL DIAGNOSIS depends on the examination of the patient and the interpretation of the clinical signs of disease for its basis. The addition of laboratory and special diagnostic procedures has improved the accuracy and efficiency of the localization of the abnormalities. The functional responses of the brain still remain a source of continued investigation.

The early anatomists and neurologists attempted to explain the function of the parts on the basis of their anatomical connections, as they knew them, and on the gross appearance of the brain. In the living subject examination of the skull provided great stimulus to the functional part. In the early nineteenth century phrenology became popular to try and explain cerebral function. It was held by phrenologists that the brain is the material instrument through which the mind holds intercourse with the outer world. The mind entails a congeries of discrete mental faculties each with its own specific cerebral center or organ. The size of each organ corresponds with the functional efficiency of each faculty. The development of these organs is reflected in the size, shape and irregularities of the encompassing cranium.

Today we are still searching for the answers to the same questions of cerebral function. There can be no doubt that we have

improved our knowledge but much still remains to be learned.

Physical examination still is the basis of good medical as well as neurological diagnosis. Like the phrenologists of old we still feel the head, measure its size and wonder what's going on underneath to produce the changes. Special devices were made to measure and calibrate skulls. Maps were drawn to serve as reference guides. Important people, mental defectives and strange people all become part of the record. Heads were shaved, casts were made and interpretations made. Today the neurosurgeon shaves the head, marks it, and places it in a device specially calibrated so as to reach stereotactically specific areas within the brain.

Palpable masses on the skull and scalp may be the result of trauma, infection, neoplasm, congenital defects or dermatologic problems.

Injury to the scalp and skull may produce defects some of which are noticeable. Open and closed depressed skull fractures are frequent these days of automobile and airplane accidents. Any trivial agent, given the proper situation, can cause a similar and just as important a problem. One recent example is that of a 48 year old male struck on the head by a golf ball. He was knocked to the ground but not unconscious. The x-rays were made at special angles and only with difficulty was the depressed fracture seen. At operation there was significant deformity of the skull and a small epidural hemorrhage. Birth is a traumatic time for everyone concerned. Large subgaleal and subperiosteal hematomas are often produced. Unnoticed for a time they resolve with no residual. Foreign bodies can be impaled in the skull and brain. Everyone has at least one case involving a strange object. By way of

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example is a little girl with a scissor blade in her head. Neglected fractures can result in problems. This six year old Negro male had a depressed fracture elevated as a baby. The bone was removed and the defect covered. As the child grew the defect enlarged with resulting cerebral deformity.

Infection of the sinuses and the skull will produce pseudotumors. Frontal sinusitis may produce serious problems of venous thrombosis, abscess, and meningitis unless recognized.

Neoplasms often present on the scalp. Metastases from the breast, prostate, lymphomas, and skin are often noted on examination. Underlying tumors to the dura and bone may become visible. Meningiomas produce changes which are reflected in bony overgrowth. An example of a fulminating frontal meningioma is shown. Primary tumors of the skull, usually benign in nature, produce interesting changes on examination and x-ray. Osteomas, epidermoids, eosinophilic granulomas and venous lakes are common examples. A typical defect from an osteoma is shown along with the steps in its correction.

Congenital problems are often reflected in changes in growth of the skull. Hydro-

cephalus, craniosynostosis, dysplasias and encephaloceles are frequent in modern neurosurgical practice. It is important to differentiate between defects in the skull that will close spontaneously and those that are manifestations of underlying neurologic abnormality.

In addition to neoplasms of the skin there are many benign lesions that are formidable in size and must be delineated from more serious problems. Wens are usually easy to see but sometimes in children they appear over the anterior fontanel and must be clearly differentiated. A case in point is shown. Dermal sinuses often appear over the midline axis of both the head and back. When they communicate with the central nervous system they can be a source of infection. A small superficial cranial sinus is shown that did not communicate with the underlying dura.

Critchley has recently said, "Phrenology—a theory of brain function, promulgated by Gall, began like truth, as a heresy and ended as a superstition." Interpretation of extrinsic prominences still has a place in the neurologic examination and diagnosis.

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### A Great Society Fable

Once upon a time, there was an ant who worked hard all day in the fields. It was summer and the ant was busy cutting grass and dragging it home. The ant had a grasshopper for a neighbor. The grasshopper sat in his doorway singing all day. When winter came, the ant had a whole bale of grass.

But he had violated the Federal farm law for overharvesting grass and was fined and the surplus seized. The grasshopper received the surplus in exchange for food stamps.

Moral: Under the Great Society, grasshoppers have the jump on everybody else.

—*Medical Bulletin of Northern Virginia*

# The Changing Environment of Medical Practice

## A Brief Presentation and Panel Discussion

### PART III

#### Discussion Questions

##### *Question:*

We understand that the Department of Health, Education and Welfare believes that a great deal of the success of the hospital provisions under the Medicare Act will depend upon utilization committees which will evaluate such questions as whether a patient should have been admitted to the hospital in the first place and whether the length of the stay in the hospital is justified. Do you have any ideas about how these committees should be organized and who should be members?

##### *Answer (Mr. Terenzio):*

I have no idea how these committees should be organized. I have heard some people from HEW suggest that each hospital's medical board or medical staff decide how to organize its committee. At my hospital we tried to pick out representatives who were a cross-section of the staff, i.e., an internist, a surgeon, and two subspecialists. There are no chiefs or chairman on the committee.

This committee has studied the diagnoses of patients who are being discharged and the frequency of each diagnosis. Out of this information we hope we will develop norms for each type of admission. If a patient is to stay beyond the norm, his physician will have to go before the utilization committee.

##### *Question:*

What do you think the Federal Government expects the medical schools to do be-

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This is the third and final part of a symposium presented before the Richmond Academy of Medicine, February 8, 1966. Part I was published in the May issue, page 293, and part II in the June issue, page 356.

sides teaching? We have the impression here that the emphasis used to be on research and has now shifted to patient care. Is this the case?

##### *Answer (Dr. James):*

I think that the medical schools are going to be involved in all three; i.e., (1) patient care, (2) teaching and (3) research. As we move on to the future these are going to become more and more synonymous. We shall teach medical students patient care, and in order to teach patient care properly, we'll have to actually provide care for real patients associated with an active research program. The trend indicates that we will not limit this to sophisticated care of a very few people with unusual disease. We are going to have to give the medical student an appreciation for the total unmet need in the community, and his share of responsibility for meeting this need. Under the heart, stroke, and cancer program the government has very definitely indicated that it expects medical schools to play a leadership role in extending their services into the community.

##### *Question:*

Medical educators often claim that the objectives of medical education derive their roots from the needs of society and from the needs of the medical profession. In what way are medical schools attuned to these needs?

##### *Answer (Dr. James):*

I would rather try to answer that question in the dynamic sense. They are becoming more attuned to these needs. The big argument between the teaching hospital and the medical school dean has been, as you well know, that the teaching hospital always feels the pressure of serving the community and the medical school wants a few



interesting cases for medical education. In the past the medical school, primarily, has been at fault. They have been more interested in teaching the unusual clinical case to the exclusion of the problem of handling the community's health problems. Certainly, the doctors must maintain their clinical skill and must be able to diagnose the unusual case, but they must also continue to understand and feel a responsibility for the major health problems of our era.

*Question:*

Some community hospitals have difficulty in developing educational programs of sufficient quality to meet standards of accreditation. Do you believe that in the long run that these hospitals can compete in the intern market with hospitals associated with medical schools and further do you believe that conversion from an opened staff to a closed staff is justified to meet this challenge?

*Answer (Mr. Neiman):*

It has become quite clear that an ongoing educational function is vital for sustaining the viability of the institution. Some kind of expanded self-education function will have to be built into all medical institution activities. Doctors of today must master two, three maybe four medical educations in a lifetime in order to keep pace. Since the medical schools are not geared to providing sustained education, the hospital has a very definite role to play.

I'm not going to answer the question about open staff and closed staff because I think that depends a good deal on individual situations and what the people in a situation can agree to. Often institutions get caught up in ideological confrontations on questions of this kind. When this occurs, it may be because they inherit more fundamental unanswered questions that have been around for some time. Perhaps in the context of solving the larger questions it is possible to find solutions to the specific question of open vs closed staff.

*Question:*

Mr. Terenzio, do you wish to comment on the question of open and closed staff?

*Answer (Mr. Terenzio):*

I quite agree that every medical care institution has to be involved in education, but I do not agree that every medical care institution has to have interns and residents.

The open-closed staff problem to me is not simply a question of open or closed staff. I have worked in an open staff hospital which has built into its structure all the tools that were necessary to maintain quality and ethics. One of the shortcomings in our city is that there are so many doctors who don't have hospital staff appointments and most of our voluntary hospitals have closed staff. So, from an ideological point of view, I would rather see a staff open but I would also like to make sure that the controls (the tissue committee, the utilization committee, medical records committee and all the other necessary committees) are built in so that quality work is done.

*Question:*

What do you think the future of the general practitioner in this country is as we now know him?

*Answer (Dr. James):*

I wrote a little paper for a medical journal called the "General Practitioner of the Future" which was actually a talk I gave before the New York State Academy of General Practice. In this paper I suggested that the general practitioner essentially give up his struggle with the specialist in the field of clinical medicine. There is an enormous unmet need in which he has an entirely clear field in first, second and fourth stage medicine. This service includes modifying risk factors, general health maintenance of the family, the early detection of disease, the guiding of patients and the members of his family through the maelstrom of various specialists and in fourth stage chronic dis-

ease care like the 76 year old man I described for you. All of these needs are enormous, but none of these needs has begun to be met. The general population is demanding more and more accent on this, the people are becoming more and more willing to pay for it, the major labor unions and industrial plants are also becoming more concerned. I believe the general practitioner of the future will be re-made as the health maintenance and chronic care and general family guider of the future. After this paper appeared, the University of Rochester had a group of medical students interview the general practitioners in the area around Rochester, and they found that something like 2/3 to 3/4 of the general practitioners' service was exactly of this type. The general practitioner has been trying to wage a losing battle with specialists for his share of clinical medicine. I do believe that the two can live side by side.

*Question:*

Do you have any idea about what so-called emergency rooms in hospitals should be? Should they not be called twenty-four hour out-patient clinics and do you think that they will provide the need for out-patient services which will be required under Title 19?

*Answer (Mr. Terenzio):*

An emergency room is a place where the patient knows he's going to find a doctor and we have begun to think of ours as a 24-hour-a-day dispensary. The last time we reviewed our ER admissions we felt that less than 20% of the 60,000± visits were true emergencies. We recognized three categories: (1) One-third who didn't have to come . . . shouldn't have come at all. (2) One-third who were one-shot cases such as removal of a splinter and (3) One-third who needed care. Even in the latter category, only 1/3 were trauma.

The public has abandoned its old technique of looking for a doctor by sticking a pin in the telephone book. In 1966 they

go to the nearest hospital and expect medical coverage there.

*Question:*

Are we creating more health problems in the later years by artificially spinning our wheels before we understand what our true health problems are?

*Answer (Dr. James):*

Often, there has not been enough study to identify our real health problems. We have operated by what has come most easily to us. Many times in my public health career I have argued the preventive medicine aspects of cigaret smoking, cutting down on saturated fats in the diet for heart disease, early detection of diabetes, etc. I have been asked, "What is the extent of your scientific proof that these things are really valuable?" In response I ask, "What is the extent of your proof that putting a patient to bed when he has had a coronary is really effective, that giving him oxygen is livesaving, that giving him Dicumarol® will prolong his life, that treating a diabetic early in his disease will prevent vascular complications." We do these things in clinical medicine because they are all that can be done for a person with symptoms. How much more reasonable it is to do equally empirical things for a person who is still well! We are losing very little if we try, and the evidence is equally good.

I agree there should be much more study of problems, but even with present medical knowledge there is a huge degree of unmet need. There is much discussion these days about underdeveloped nations. An underdeveloped nation is defined as a nation that doesn't make use of current biologic knowledge because of social inadequacy. For example, in parts of India they will not drink pure water and in part of Latin America they will not protect themselves against hook worm by taking proper care of human excrement, etc. We are equally guilty in the United States with respect to many health conditions. In fact we are perhaps the most backward nation, because we have the



most biological knowledge and just as many social pressures to avoid using it. Yes, I think there is an enormous need for study, but there is also a tremendous storehouse of information which we lack the social maturity to apply.

*Question:*

In what areas do you think that the American Medical Association has made its greatest mistakes in public relations?

*Answer (Mr. Neiman):*

First of all, public relations is a superficial aspect of the problem. I feel it has been a failure of the AMA to widen its concept of mission. I remember reading an article about the AMA which said it was time for the doctors to take leadership in social change and that they could no longer afford to shirk these responsibilities. Very appropriate, but the article was dated in 1920. The real question here is, "What role can an association play in understanding, responding to, and leading forces for social change as well as being concerned about professional excellence?" The AMA is discovering that you cannot separate these questions. The excellence of a profession is very closely tied to its responsiveness to changes in society. To the extent the AMA has failed to relate to some of the very powerful forces for change in this country, it has lost much of its impact in Washington. It's a great tragedy when a profession lets this happen to itself. I have great confidence in the profession and its ability to open its eyes to these questions.

*Question:*

One of my colleagues has said that New York has considered legislation to increase control over hospitals by standards of practice. Is there any truth to this?

*Answer (Mr. Terenzio):*

Yes, such a law has already been enacted. New York is the only State, so far, that has a law which makes regionalization, or makes regional planning compulsory. At Roosevelt Hospital we couldn't add a service, or

floor or a new building without proving its need and obtaining approval from the State. Any expansion plan has to be approved by the local regional planning council and the State planning authority. If they don't approve of it, the hospital's license will be taken away. Other kinds of control are also being exercised by the City of New York for indigents as follows: No child shall be admitted to any hospital, except in an emergency, unless that hospital has an approved residency training program in pediatrics. Quality of care, in this illustration is equated with an approved program in pediatrics. Since many hospitals that didn't have an approved pediatrics training program were admitting children, you can imagine the conflict that was created. On the other hand, the goal of quality care for the indigents of the City was something that we could not argue against. New York was one of the first States to lose charitable hospital immunity. By now, over 50% of the states in this country are already without charitable hospital immunity. So I'm saying, if it starts in New York it will be here . . . it just takes a little time.

*Question:*

There is demand for physicians in research and in medical education. We are already short in the number of physicians available for patient care. How do you foresee we meet this need?

*Answer (Dr. James):*

That is why I'm interested in opening a new medical school; that is why there are about 30 new medical schools on the drawing boards and nearly every medical school in the country has plans for expansion. But this is only a small part of the problem. You might ask the same question about mental health. With mental health problems as great as they are, it is inconceivable that we'll ever have enough psychiatrists. I suppose, the solution is (1) Accept the responsibility for trying to meet the need and (2) See how to work it out. In foreign countries they have "assistant" doctors with less than



medical school training. In this country we have not begun to explore the possibilities of paramedical personnel working under the direction of a physician. When I was health officer in New York City, I could have swamped any hospital overnight by increasing the demand for necessary medical care by only 1%. The need was that great! A possible answer is the training of large numbers of paramedical personnel of brand new types with the doctor as captain of the team. I predict that medical schools are going to go into the extensive training of paramedical personnel in the near future.

*Question:*

Department stores do not reduce prices for the poor, nor do nurses and orderlies work to help them at lower pay. Do you believe that doctors should accept lower fees under government supported health programs?

*Answer (Dr. James):*

No, I don't. I believe that the cost of medical care should be met, and when government is responsible for the cost of this care they should meet this cost.

### Health Spending Increases

Americans are increasing their spending for health care, reports The AMA News, published by the American Medical Association. But they still spent more for liquor and tobacco (\$21.4 billion) in 1965 than for hospital, drug, and doctor bills combined (\$19.8 billion).

Spending for health care totaled \$28 billion in 1965, according to figures of the U.S. Department of Commerce. That's an increase of 9.5 per cent from the \$25.2 billion spent in 1964.

Hospitals receive the largest share of health care spending—about 30 cents of every dollar. The total spent for hospital care in 1965 was \$8.4 billion.

Other portions of the health-care dollar were divided among drugs, 16.4 cents; dentists, 9.6 cents; health insurance, 7 cents; appliances, 4.4 cents, and miscellaneous expenses, 4.9 cents.

The remaining 27.7 cents goes to physicians. This percentage was unchanged from 1964, but has declined slightly over the years. Twenty years ago, physicians received about 28 cents of every health care dollar.

The Department of Commerce reported these expenditures for health care in 1965:

Hospitals, \$8.4 billion; physicians, \$6.8 billion; drugs, \$4.6 billion; dentists, \$2.7 billion; health insurance, \$2 billion; appliances, \$1.1 billion, and other services \$1.4 billion.

Health care represented about 6.5 per cent of personal spending in 1965. Americans also spent about 19.7 per cent of their income on food; 9 per cent on clothing, accessories and jewelry; 19.1 per cent on care and maintenance of homes; 2.8 per cent on maintenance of other possessions, and 2.5 per cent for transportation and communications.

# *Clinicopathological Conference . . . .*

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## **Pain and Flank Mass in a 58 Year Old Woman**

Prepared and Edited by

PAGE HUDSON, M.D.  
JOHN H. MOON, M.D.  
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### **DISCUSSANTS:**

David M. Hume, M.D., Professor and Chairman, Department of Surgery, Medical College of Virginia

Saul Kay, M.D., Professor and Chairman, Division of Surgical Pathology, Department of Pathology, Medical College of Virginia

### **Clinical History**

A 58 year old white female was admitted to the Medical College of Virginia ward surgical service on 7/18/64 complaining of right abdominal pain.

The pain had been of sudden onset three days prior to admission here and had been localized to her right flank. She had vomited each time she tried to eat but had noted no hematemesis. There was a past history of intolerance to fatty foods and she usually tried to avoid these. There was also a history of epigastric distress on occasion after eating. She had chronic difficulty with constipation and took laxatives frequently. She denied melena. She was seen by her local physician who noted that her hemoglobin was 11.2 gm.%. The following day the pain began to radiate anteriorly and into the right lower quadrant. Her physician found that her temperature had risen to 102° and that her hemoglobin had dropped to 8.9 gm. Her white count was 15,000/mm<sup>3</sup> with a slight shift to the left. She was then referred here for further investigation.

Review of systems was essentially negative except as in the present illness.

Past medical history revealed that she had had a simple mastectomy bilaterally for cystic disease of the breasts and a uterine suspension and appendectomy.

*Physical examination:* BP. 150/80, P. 110, T. 102°, R. 20. The patient appeared to be acutely ill with toxicity and dehydration but was oriented and alert to her surroundings. There was no scleral icterus. The breasts were absent. There was dullness to percussion on the right base posteriorly and limitation of diaphragmatic excursion on the right. On auscultation the breath sounds were decreased over the right base and there were a few moist rales and wheezes in the same area. The heart was normal except for tachycardia. The abdomen was distended. There was right costo-vertebral angle tenderness. There was also diffuse abdominal tenderness but most marked over the right side. An ill-defined mass was felt occupying the lateral aspect of the right upper and lower quadrants. Bowel sounds were hypoactive. There was rebound tenderness on the right.

*Laboratory data:* Hemoglobin 9.6 gm.%, PCV 30%, WBC 13,650/mm<sup>3</sup> with 81% neutrophils. Serum amylase was less than 66 Somogyi units. BUN 12, blood sugar 115, serum sodium 139, potassium 4.2, chlorides 100 and bicarbonate content 26.

An urinalysis showed straw colored, clear urine with pH 7 and S.G. 1.014. Protein, sugar and acetone were negative. Microscopic examination was negative. A urine culture was negative.

An EKG was interpreted as a sinus tachycardia.

A chest film showed a pneumonic infiltration of the right lower lobe with changes suggestive of a subdiaphragmatic abscess. Flat and upright films of the abdomen showed a right sided abdominal mass displacing the hepatic flexure with bowel gas

changes consistent with paralytic ileus or early partial obstruction.

An intravenous pyelogram was reported as negative but was not entirely satisfactory because of the large amount of gas and feces in the bowel.

The patient was operated upon on 7/19/64 and had an uneventful postoperative course.

### Clinical Discussion

*Dr. David M. Hume:* This is a 58 year old woman with right sided abdominal pain. Four points are of particular significance as the case unfolds. *First*, her pain was sudden in onset, located in the right flank, and associated with vomiting. *Second*, she came to the hospital three days after the onset of pain. This tells us that the pain was not originally so severe that she couldn't stand it, and that her doctor was not so concerned about her as to send her in as an emergency. The *third* important aspect is that the hemoglobin had dropped from 11.2 to 8.9 gm. by the second hospital day. Hydration was normal, so the fall in hemoglobin was obviously due to some sort of hemorrhage. It is significant that she did not have any apparent gastrointestinal, genitourinary tract, or vaginal bleeding. Thus, the blood was inside somewhere, either in the abdominal cavity or locked up in an abdominal organ. The *fourth* important feature to me is that the patient's white count which was 15,000 on the second day of her illness was 13,650 on the third day of her illness and there were only 81% neutrophils. This makes me think immediately very much less of an extremely active infectious process, and very much more of a hemorrhagic process.

She had had an appendectomy previously. This helps us. I have seen a patient with right upper quadrant pain, a mass and fever associated with elevation of the diaphragm and changes in the right lung base, all of which are described in today's patient. She had malrotation of the colon and a perforated right upper quadrant appendix.

It is interesting to me that within the last six months I have seen four patients each with a different disease which could have given this exact picture. I hope I have picked the right one of the four.

We will go on from here to a consideration of various disease possibilities that could produce right upper quadrant pain of acute onset, hemorrhage of mild nature that was not severe enough to put the patient in shock, and pain which started in the flank and radiated around to the front. This combination makes one think immediately more of the renal-retroperitoneal area than it does of the gallbladder-gastric area, although there is the usual red herring in the history of fatty food intolerance and epigastric pain.

We will take the least likely diagnosis first. She could have had a perforated gallbladder with hemorrhage. She had had fatty food intolerance and pain in the epigastrium in the past. There are three things against this. Her white count had only gone to 15,000, and her temperature was 102. If she had had a perforated gallbladder for three days the chances are that the white count would have been 30,000, the temperature 104°, and the patient much sicker, and in peripheral collapse. It is most unusual for gallbladder pain to start in the flank and radiate to the front and right lower quadrant only after 24 to 48 hours. Furthermore, she would probably have developed some icterus, but actually is recorded as having none. We can place the gallbladder well into the background of our suspicions.

The second possibility lies in the general area of the duodenum. She had epigastric distress in the past. It is possible that she could have perforated a duodenal ulcer, and that this could have been associated with bleeding. Against this is the fact that her pain was not severe, that she was not reported as having a rigid abdomen, and that she could dilly-dally for three days before coming in. Her white count wasn't really



quite high enough for a three-day perforated ulcer. Also, she had no blood in the stools.

In the arms of the duodenum is the pancreas, which is a possible source of difficulty. She could have had a pancreatic pseudocyst. Sudden hemorrhage into a pancreatic pseudocyst is not rare, and it is a very good way to hide hemorrhage in the abdominal cavity. Against this is the fact that her initial sharp pain was right flank pain, and she had a mass in the right flank. While a left flank mass is seen in pancreatitis and may be difficult to differentiate from a left renal mass, a right flank pancreatic mass is very unlikely. Furthermore, she did not have a history of pancreatitis in the past and her white count was not very high.

It is possible to have a dissecting aneurysm which dissects down into this area, ruptures, and seals locally. This can produce a mass, a fall in hemoglobin, and pain in the flank and back. She had a mild elevation of white count and an elevation in temperature. Against this is absence of excruciating pain. In addition, the chances that a leaking dissecting aneurysm would have ruptured further over a three day period and put the patient in shock are great, since this occurs in about 90% of patients with aneurysms which dissect the abdominal aorta.

Now what about the liver? Certainly bleeding does occur in some liver tumors. This morning I was in the morgue and observed a case in which bleeding had occurred in a tumor mass in the right lobe of the liver. This patient was explored a day or so ago and had died from hemorrhage in this area. This can occur in the absence of jaundice and with only a slight elevation of white count. Also, it is possible that the patient could have had a benign tumor of the liver, such as an hemangioma, into which hemorrhage had occurred. If so, I would have expected the mass to move with respiration.

The next possibility is the kidney itself.

The kidney with or without a neoplasm certainly can be the site of hemorrhage that can produce a large mass, flank pain, leukocytosis and fever. It is possible to bleed into a hypernephroma without having blood in the urine. What about polycystic kidney disease? Sometimes hemorrhage can occur in a polycystic kidney without producing blood in the urine. However, there is no description of a mass on the other side, and to have unilateral polycystic kidney disease with massive intrarenal bleeding would be so rare that even for a CPC it is too unlikely to consider further. It is possible to have a hydronephrotic kidney with hemorrhage into it. We have had a patient with this within the last few months. That patient had suffered a slight trauma, although trauma is not necessary, as bleeding is sometimes spontaneous, and bled into shock with no external blood loss or hematuria. At laparotomy there was a huge collection of blood in the retroperitoneal space and on opening into it, we saw that the blood was in a very large cavity—the pelvis of the kidney. There was massive hydronephrosis. The I-V pyelogram should help us out on most of the renal causes of sudden pain in the flank and hemorrhage. I hope that when we look at the pyelogram we will be able to rule renal causes in or out.

This brings us to the next structure in this area, the adrenal. This gland tends to hemorrhage more easily than almost any other tissue. As you know, with meningococcal infections of children and young adults adrenal hemorrhage sometimes occurs and destroys the glands. I have seen three cases of bilateral adrenal hemorrhage as a consequence of anticoagulant therapy. Other cases have been reported in which isolated hemorrhages in the adrenal glands have occurred in patients on anticoagulants. Hemorrhage occurs into several different types of adrenal tumors. Pheochromocytomas are not infrequently the site of hemorrhage. Remember, pheochromocytomas are sometimes non-functional, so the fact

that this patient had no stigmata of functioning pheochromocytoma does not rule out this tumor as a possible site of hemorrhage. Adrenal cortical carcinomas are often very hemorrhagic, and this is certainly a distinct possibility today. Neuroblastomas are hemorrhagic, but occur almost exclusively in children. The most likely hemorrhagic adrenal lesion in this case is either a nonfunctioning pheochromocytoma or a nonfunctioning adrenal cortical carcinoma, and the hemorrhage is likely to be of greater extent in the latter. Adrenal cortical carcinomas can produce Cushing's syndrome which this patient obviously did not have. In the adult the percentage of Cushing's disease caused by adrenal cortical carcinoma is about 13%, while in the child, it is probably in the neighborhood of 60-70%. A child under the age of 10 with Cushing's disease is very apt to have a carcinoma.

We will look at the x-rays and see if they will help us differentiate these various possibilities.

*Dr. M. Pinson Neal:* There is evidence of right pleural effusion. In the film of the abdomen (Fig. 1) there is in the right upper quadrant a diffuse increase in density with displacement of the right side of the colon downward and medially. The density extends down the right flank producing some medial displacement of the air-filled cecum. On the left the density is similar along the lateral aspect of the descending colon suggesting that there might be fluid in the abdominal cavity. On I-V pyelography, the left side is essentially negative as far as calyces and pelvis are concerned. The right ureter is seen below about L-4 but not above. The collecting system on the right is not dilated. The lower pole of this kidney can barely be seen but the upper pole, liver margin, and pelvis, as I described, are not seen and there is again a displacement of the air-filled right colon. Also the kidney

and collecting system is displaced downward and laterally. The failure to see good tissue outlined may be due to technique and patient's size but also perhaps because there is an infiltrating mass present. I cannot explain the non-filling of the pelves and proximal ureter. I believe the lesion lies in the retroperitoneal space.



Fig. 1. A soft tissue density extends from the right upper quadrant down the right flank. The right side colon is displaced downward and medially, the cecum is displaced medially.

*Dr. Hume:* Dr. Cleveland, you saw this patient. Could you tell us if there were endocrine abnormalities and also if there were physical findings that might help? Did this mass, for instance, move with respiration? What was the character of it? Was it tender? Was there any blueness in the flanks?

*Dr. Richard Cleveland:* There were no feminizing characteristics. She had no blueness in the flank. The mass did not move with respiration, the rectal examination was negative.

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M. PINSON NEAL, JR., M.D., *Professor and Chairman, Division of Radiodiagnostic Studies, Department of Radiology, Medical College of Virginia.*

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RICHARD J. CLEVELAND, M.D., *Former Chief Resident, Department of Surgery, Medical College of Virginia.*



*Dr. George R. Prout:* It may perhaps seem that we ruled out abscess in too cavalier a fashion. Abscess seemed unlikely to me because her white count was going down, she didn't have a very significant shift to the left, she wasn't terribly sick, the process had been going on for three days and was not getting worse. It is a bit unusual for an abscess to get itself into such a retroperitoneal spot that it can displace the kidney as this one did. It would likely be something that was hemmed in by the peritoneum in proximity to the kidneys so that it could wedge itself between the vertebral body and the kidney and push the kidney over. This is not the sort of thing that an abscess in the subhepatic area would do. It might well press on the calyceal system, make some distortion on I-V pyelogram, might conceivably displace the whole kidney, but it would be a little less likely to do the other things that I mentioned.

*Dr. Hume:* This brings me to hemorrhage in the retroperitoneal space displacing the kidney laterally. Since the adrenal is the most likely source of hemorrhage in this area this is the most likely diagnosis. Therefore, hemorrhage in an adrenal cortical carcinoma is my diagnosis.

#### CLINICAL DIAGNOSES:

- ? Ruptured gallbladder
- ? Renal tumor
- ? Adrenal tumor

#### DR. DAVID M. HUME'S DIAGNOSIS:

*Hemorrhage into an adrenal cortical carcinoma*

#### Pathological Discussion

*Dr. Saul Kay:* The surgical specimen was an adrenal mass and a kidney. The latter was normal. The tumor had at laparotomy ruptured its capsule and spilled fragments

GEORGE R. PROUT, JR., M.D., *Professor and Chairman, Division of Urology, Department of Surgery, Medical College of Virginia.*

and hemorrhage over the surface of the kidney. The chances are that the tumor still abides in the perirenal area.

The tumor was 5.5 cm. in diameter and weighed 67 gm. (Fig. 2). Gram for gram

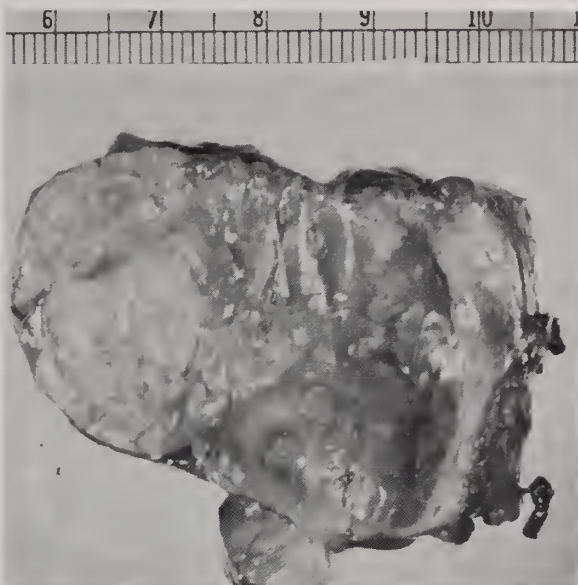


Fig. 2. The yellow tumor mass (opened, hematoma removed) is breaking through its hemorrhagic capsule and adjacent connective tissue.

the tumor had only about 4% of the steroid level that normal adrenal has. The urinary 17-hydroxy cortico steroids were normal in this patient before and after ACTH stimulation, a fact not in the protocol.

#### PLASMA 17-OH CORTICOSTEROIDS

Pre-op.

Pre-ACTH 23.1  $\mu\text{g.}\%$  (normal 8-28)

Post-op.

Pre ACTH 16.3  $\mu\text{g.}\%$

Post ACTH 51.0  $\mu\text{g.}\%$  (normal 35-55)

(ACTH test: 4 hour infusion of 25 U ACTH)

We found no residual adrenal gland. The tumor cells ranged in appearance from moderately pleomorphic glomerulosa to totally anaplastic large, eosinophilic cells with bizarre nuclei and frequent atypical mitoses. (Fig. 3) There were a vast number of vessels around which fresh and older



hemorrhage was present. Atypical cells and hemorrhage can be seen in adrenal adenomas and hyperplastic nodules. In this case, how-

ever, we found abnormal cells invading and penetrating the capsule (Fig. 4).

The tumor cells contained abundant lipid



Fig. 3. The tumor cells and their nuclei are large pleomorphic. There is a tendency to cord formation, simulating adrenal cortex. (H & E, approx. 400 X)

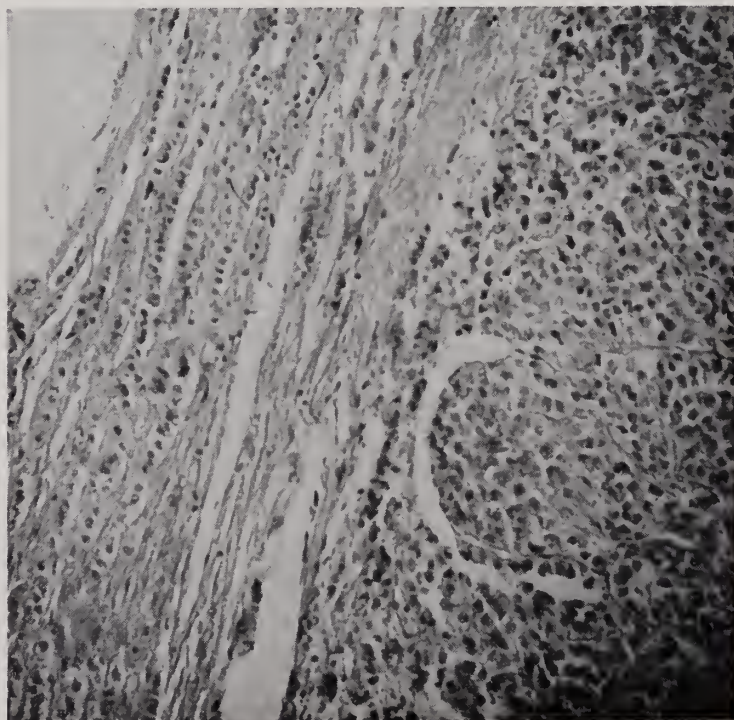


Fig. 4. The large, bizarre tumor cells are diffusing through the fibrous capsule. (H & E, approx. 100 X)

as seen in Oil Red O stained sections. This is typical of adrenal cortical cytoplasm and helps to distinguish this tumor from the histologically similar epinephrine-norepinephrine producing neoplasm, pheochromocytoma. The absence of the chromaffin reaction also ruled out pheochromocytoma.

Carcinoma of the adrenal cortex is a rare neoplasm. Our files contain only two other examples from the past 14 years. One was a 16 year old girl with a full-blown Cushing's Syndrome due to an adrenal cortical carcinoma. There was return to normal following resection but death resulted ultimately of local recurrence. The other case was a 44 year old man who had a likely lung metastasis four years after resection of the primary tumor.

It is well to remember that these neoplasms arising from the adrenal cortex may be non-functioning, may produce either estrogens, androgens or both, or may be responsible for Cushing's or other syndromes in children and adults.

#### PATHOLOGICAL DIAGNOSIS:

*Carcinoma of adrenal cortex, right,  
with hemorrhage*

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#### ADDENDUM:

The patient did well post-operatively but, in several months, developed features of disseminated tumor. She died approximately two years following surgery. The death did not occur at this hospital and an autopsy was not performed.

#### Altitude Sickness

Women apparently suffer fewer symptoms of altitude sickness than men, according to a study of eight girls who spent 10 weeks at the summit of Pikes Peak, Colorado (altitude 14,110 feet).

Dr. Charles W. Harris and associates from Fitzsimons General Hospital, Denver, evaluated symptoms in University of Missouri coeds who had not previously been exposed to high altitudes.

Significant illness occurred during the first four days, the predominant complaints being headache, drowsiness, fatigue and insomnia. Menstrual changes consisted of decreased flow in five girls.

Gastrointestinal complaints and palpita-

tions, shortness of breath and chest pains—fairly common in men—were rarely experienced by the girls. Weight loss, reflecting appetite, averaged less than 2 pounds for the girls during the first week, whereas eight men of similar age had an average loss of about 5 pounds.

Several medications for relief of symptoms of altitude sickness were evaluated. Methylene blue and codeine were possibly of benefit. Aspirin was considered to be very beneficial for relief of headache and muscular complaints. — *Aerospace Med.*, November, pp. 1163-1167. (Schering Science Bulletin)



## Correspondence . . . .

### **"Look and the Big Lie"**

To the Editor:

On reading your editorial on the National Health Service in Britain and the article in "Look" featuring the Jones Boys, I was reminded of a football song from their native Wales. It goes, in part, like this:

I have a brother Keith,  
And he plays fullback for Neath,  
Where they think so much about him  
That they always play without him.

Avery who professes love and admiration for the Health Service makes his living (and his Bentleys) outside it in a Harley Street private practice. Tony Armstrong-Jones, since his transmogrification, has not lined up with the plebs when he requires even the most minor operation.

It is a sad fact that in all probability no leading medical practitioner in Britain is a full-time member of the National Health Service and nobody who previously sought private consultation accepts major care under it. The artist who is thankful that nobody need go broke paying for medical care lacks complete knowledge of the facts. Free medical care has always been available to those unable to pay, and still is under the new system. As always, those seeking this care crowd into the outpatient departments of hospitals, and wait their turn to see the "great man" of their choice. Many never see him, and always they will be examined by interns and residents first. Even after being seen by the consultant of their choice, patients have no guarantee that their treatment will be supervised or their surgery performed by him. In fact, in many instances, the patient is not allowed to consult the surgeon or physician of his choice. A great deal of the surgery falls to the residents. In most cases they are very competent, but the point is that they would not

have been the patient's choice, if he had been allowed to choose. I know this because I have gone through the system as a resident and consultant.

Doctor Jones says that the problems are both obvious and temporary, and that eventually a superb health service will be developed. Reason and the previous record are against him; the problems are growing steadily worse and more expensive. Since the inception of the Health Service twenty years ago, only one new major hospital has been built and this required twelve years for completion, from planning to admission of the first patient. If a start were made today to re-building, and all income presently available were utilized, it is estimated that the program would take sixty years to complete, by which time today's hospitals would be obsolete. Some of today's patients are still hospitalized in wartime Quonset Huts, and some facilities are so poor that no British residents can be persuaded to staff them.

Though the popular press has made much of higher incomes as a cause of the "brain-drain" from Britain, this is only a very small part of the overall reason. Most physicians are attracted by facilities which render the practice of medicine efficient and constantly up-to-date, by opportunities to develop their abilities and by freedom to live and work in a chosen geographical area.

I would like to quote from an article by Professor Henry Miller, Dean of Medicine and Professor of Neurology at the University of Newcastle-on-Tyne. "In terms of percentage allocation to medicine of the total national product, the figures are . . . revealing. In 1964 the United States devoted 5.9% to this purpose . . . and Britain 4.1%. At a time when an increase of more than £500,000,000 (\$1,400,000,000) in annual expenditure would be required to

*(Continued on page 438)*



ALAN M. KRAFT, M.D.  
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## **The Community Mental Health Program and the Longer-Stay Patient**

The organization of psychiatric services in the United States is presently undergoing a dramatic reappraisal and change. The federal government has taken a strong position, backed by financial support, in favor of comprehensive services in community centers. This new emphasis has been accompanied by declarations of the obsolescence of the state mental hospitals.<sup>1-4</sup> The hope has been expressed that the community center can obviate the need for the mental hospital. However, the problem of the chronic hospitalized patient has not been faced squarely by the planners.

Although presently few programs in the United States exactly follow the lines of the proposed centers, the development in 1961 of the Fort Logan Mental Health Center was coincident with the changed views about mental health services. While Fort Logan is by no means a model comprehensive community mental health center in the terms set forth by current legislation and regulation, the program bears many points of similarity to the recommendations presented by them. The history, development, and description of the program are described elsewhere.<sup>5-9</sup>

We now find ourselves, after 4½ years' experience, in a reasonably good position to evaluate the effect of our center on the unresponsive, chronic patient. This paper looks at one aspect of a mental health center's

achievements—its effectiveness in preventing the accumulation of patients who, for some reason, have not been able to resume independent living in the community.

## **The Growing Problem**

As our experience grew, we were encouraged by some indications that this new type of mental hospital was successful. During its first four years (1961-1965), the center admitted 3,398 patients to all its divisions. (There are four treatment divisions—adult psychiatry, alcoholism, child psychiatry, and geriatric-medical).

As we looked at the accumulating data on patients' length of stay over the first years, we felt we were not unrealistic in our optimism about preventing a buildup of chronic, continuously hospitalized patients. Within reasonable periods of time individuals were leaving the hospital and returning to their communities. For instance, the 59 patients discharged from the Adult Psychiatric Division the first year averaged only a total of 76 calendar (not actual treatment) days on the institution's rolls. This figure included the time they spent in follow-up care. With aftercare, or outpatient department (OPD) time deducted, they were on the books an average of only 66 days. For the second year, the time increased to 130 days' total time, 96 days less OPD. The increase was clearly a function of some of the first year's admissions being discharged the second year.

In the third year the total rose to 159 days, with the time after deducting aftercare rising to 120 days. The fourth year's experience resulted in 193 days total and

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144 days net. Over this time the 1,622 patients discharged from the Psychiatric Division stayed an average of 163 days in all—a little over five months—and an average of 122 days—just over four months—not counting aftercare time.

Considered as a total, then, the lengths of stay are not alarming. However, one must keep in mind that these figures do not include patients from each admission year's cohort who are still enrolled, that is, patients who have *never* been discharged.

As is true of most state hospitals, patients we admitted had varying amounts of previous psychiatric treatment. Of all those admitted to the Adult Psychiatric Division in 1964 and 1965, 85% were known to have had previous inpatient treatment, however minimal it may have been; 5% previous outpatient experience; and only 2% had none. (For 8% we had no information.)

Although we knew from observation that our long-stayers were phenomenologically quite different in both appearance and behavior from the "back-ward" patients we had seen in other settings, we investigated the extent to which our program was preventing desocialization. Preliminary observations by Polak (unpublished research report, 1965), using Gruenberg's Scale of Desocialization,<sup>10-12</sup> indicate that these patients, although long-stayers in terms of length of hospitalization, were not desocialized to the degree found in a "back-ward" population. Although the institution, after a longer period of existence, might accumulate the kinds of patients that Gruenberg studied, we are still hopeful that our active treatment program and policy of nonsegregation of the longer-staying patients will prevent the kind of personal and social deterioration that is measured by the Gruenberg scale.

If our chronic patients were not nearly as desocialized as one might have expected, they did appear to be accumulating at a rate worthy of our notice. We began to focus our energies on studying these patients

more methodically. Of the three masks of chronicity—continual institutionalization, repeated readmission, and marginal community adjustment—we have studied the first in some depth, the second enough to get an idea of the magnitude of the problem, and on the third we have hardly begun. The next two sections of the paper will review some of our findings on our readmission population and add considerably more detail from our studies of the continual long-stayers.

### Readmissions\*

Just as we watched the picture of the length of stay develop over the first few years, we have also seen the readmission picture evolve. "Readmission rate" can, of course, be calculated in a number of ways.

First, we looked at the proportion of each year's total admissions to readmissions in the Psychiatric Division. This gives us some idea of the "mix" of incoming patients, i.e., how heavily loaded with repeaters the incoming population is. This figure is very much a function of the age of the institution, and has naturally risen as our group of discharges has grown. As yet, it has shown no evidence of leveling off.

Of the 186 patients admitted to the Adult Psychiatric Division the first year,

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\*The backbone of the Fort Logan research effort is the Record System Project, which has had the benefit of several NIMH Title V demonstration grants, (PHS 2-RH-MH00931-05) enabling us to record some of the information ordinarily found in the patient's chart on IBM cards. At present there are about 850 items of information collected on the average Psychiatric Division patient. Since this system has been in operation from the opening of the center, we have at least some of this information on every patient treated.

This project provides a foundation for the research effort at the center, since it creates a pool of information readily available to the investigator setting out to study a problem. While much of the work on this system has been developmental (and it continues to evolve) through its use we have been able to describe and evaluate our clinical programs at the center almost from the beginning of our operation. Much—but certainly not all—of the data in this paper was drawn from the Record System Project.

only 2% were readmissions. In the second year readmissions rose to 11%, the third year to 21%, and the fourth year to 28%.

If we then look at the patient population in a cross-sectioned view, we find that on June 30, 1965, readmissions constituted 27% of the patient population active in the Adult Psychiatric Division. The proportion of new admissions and readmissions varied, but not radically, depending on the patient's modality status. Table 1 gives the details of these findings.

that this estimate is minimal, since it includes only readmissions to Fort Logan, and not to other facilities in our and in other communities.

Since in the studies reported in the next section we had defined "long-stayers" to exclude readmissions, we wondered how many patients in our readmitted population had accumulated two or more years of time at the center during their several periods of treatment. Only 63 of our readmissions had been admitted to the center early enough

TABLE 1  
ADMISSION HISTORY OF PATIENTS IN ADULT PSYCHIATRIC DIVISION, JUNE 30, 1965

MODALITY	In		Medical Service		Special Hospital Leave		Day		Night		Halfway House		OPD		Family Care		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
First admission	60	67	0	0	2	100	163	76	9	64	6	67	154	74	70	73	464	73
Readmission	30	33	2	100	0	0	52	24	5	36	3	33	55	26	26	27	173	27
Total	90		2		2		215		14		9		209		96		637	

Since the number of readmissions is directly related to the number of patients discharged and the length of time they have been discharged, we also analyzed the readmission picture from this perspective. Table 2 summarizes, by discharge cohorts, the

to have had an opportunity to accumulate two years of time on our books. Of these 63, 14 patients, or 22%, had accumulated two years' time or more. Table 3 gives the distribution of time on the books accumulated by these 63 readmissions.

TABLE 2  
PATIENTS READMITTED TO ADULT PSYCHIATRIC DIVISION BY JUNE 30, 1965 BY MONTHS AFTER DISCHARGE DATE

Discharge Cohort	Total		0-6		6-12			12-18			18-24			24-30			30-36		
	No. Dis.	No. Readm.	N	%	N	%	Cum† %	N	%	Cum %	N	%	Cum %	N	%	Cum %	N	%	Cum %
1961-62	50	20	8	14	5	8	22	1	2	24	1	2	26	2	3	29	3	5	34
1962-63	348	107	63	18	16	5	23	16	5	28	7	2	30	5	1	31	—	—	—
1963-64	592	151	110	19	29	5	24	10	2	26	2	0	26	—	—	—	—	—	—
1964-65	623	114	101	16	13	2	18	—	—	—	—	—	—	—	—	—	—	—	—
Total	1,622	393*	282	17	63	4	21	27	3	24	10	1	25	7	2	27	3	5	32

\*This total does not include patients who transferred between Psychiatric and Alcoholism Divisions, and therefore differs from the totals of some of the other tables.  
†Cum = cumulative percentage.

number of patients readmitted at various points in time after their discharge date.

This analysis indicates an even higher re-admission rate than the previous two ways of looking at the picture. It is evident that with the treatment program we can provide at present, a substantial number of patients need to return to the center. We know, too,

TABLE 3  
CUMULATIVE LENGTH OF STAY\* OF PATIENTS READMITTED TO ADULT PSYCHIATRIC DIVISION PRIOR TO JUNE 30, 1963

Months of Stay	0-6		6-12		12-18		18-24		24-30		30-36		36-42	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Total 63	16	25	16	25	12	19	5	8	1	2	11	17	2	3

\*Length of stay calculated till June 30, 1965.



It seems clear that the readmissions also contain a subgroup of long-staying patients who accumulate their time through *discontinuous* admissions rather than through one long admission.

Table 4 summarizes the admissions and readmissions by admission-year cohorts.

TABLE 4

ADMISSION COHORTS OF PATIENTS ACTIVE ON JUNE 30, 1965

Admission Cohort	First Admission		Readmission		Total		Cumulative %
	N	%	N	%	N	%	
1961-62	22	3	0	0	22	3	3
1962-63	71	11	12	2	83	13	16
1963-64	112	18	44	7	156	24	40
1964-65	259	41	117	18	376	59	99
Total	464	73	173	27	637	99	

Total % figure = 1% under due to rounding error.

These figures show what proportion of the current population on a given day would qualify as either "readmitted" or "continuous stay" long-stayers. On the day studies, 40% of current patients in the adult division had been enrolled for more than one year.

We can see that, in spite of our best efforts, readmissions will constitute a substantial proportion of our population. Our findings are consistent with those recently reported in another community center.<sup>13</sup>

### One-Admission Long-Stayers

Let us look now at the group who stay extended periods of time during a single period of treatment.

In some ways, the number of one-admission long-stayers has not appeared to be large. When we looked at a cohort of Adult Psychiatric Division admissions who could have stayed in treatment two years, we found they occupied the statuses shown in Table 5 as of June 30, 1965.

The point prevalence of long-stayers among the total admission population, especially those occupying beds, thus appears to be low. However, on June 30, 1965, there were 637 patients in treatment in the Adult Psychiatric Division. Of these, 16% had been enrolled continuously for two years or

more, and 40% for at least one year. Moreover, it appears through even more recent trends that the proportion of patients staying a year or more who are on our rolls on a given day will soon exceed 50% of the total patient population.

TABLE 5

STATUSES OF PATIENTS ADMITTED BETWEEN JULY 1, 1962 AND JUNE 30, 1963, AS OF JUNE 30, 1965

	No.	%
Discharged	509	86
Still in Treatment	81	14
24-hour	4	1
Day care	11	2
Evening hospital	3	1
Halfway house	0	—
OPD (follow-up)	39	7
Family care	24	4
Total	81	15*

\*1% over, due to rounding error.

In order to learn more about their characteristics, we embarked upon a series of studies on the group that had never been discharged, particularly those from the first two years' admission cohorts.

### Matched Long-Stay Patients' Study (Adult Psychiatric Division)<sup>14</sup>

The long-range purpose of this study on long-stayers was to find early predictive signs about the reasons for their extended hospitalization, and eventually to provide the detailed knowledge necessary for developing alternative methods of treatment.

Using a matched-pairs experimental design, the control group was selected from individuals in the patient population who could be matched with the long-stayer cases on several demographic variables, i.e., sex, age, marital status, and admission diagnosis. Attempts to match on the variable of psychiatric treatment team were not very successful. The experimental group was composed of patients who were admitted to Fort Logan during its first or second year of operation and who had not yet been discharged. Thus, at the time the study was begun, they had had at least two years of continuous hospitalization. Eighty-two such patients provided the population from

which the 41 experimental subjects were chosen.

The rationale for using the particular controls described above implied the more immediate purpose of the study, namely, to compare the long-stayers with a group who at admission, were apparently as "sick." Using admission diagnosis as the independent variable, however, proved to be a poor criterion, because among a significant number of the controls admission diagnoses were changed later to less profoundly disturbed labels. The matching, then, only partially accomplished this particular purpose.

Of an approximate total of 850 variables available on each patient, 356 were selected for analysis. These items came from a variety of forms used by the record system: the admission form, MACC Behavioral Adjustment Scale, social history form, mental status summary, activity therapy evaluations (including recreational and occupational therapy), and the opinions about Mental Illness Scale.

The results indicated that many characteristics of our long-stay patients are not different from those noted by other writers, who have described the chronic psychiatric patient as pale, autistic, and withdrawn,<sup>15,16</sup> Of particular interest were the findings obtained from the social histories furnished by the long-stay patients and other informants indicating that numerous traumatic events had occurred, arresting their social and interpersonal development. This was especially apparent during early childhood, since they were rated as manifesting much poorer "prior to adjustment" than the controls. They experienced more severe traumas, dependency, and deprivation during the developmental years until 3, 4-6, 13 to 20, and even 20 to 50 for those patients who were old enough to fall into this latter category.

Despite the methodological attempts to provide for selection of an equally "sick" control group, the long-stayers emerged as more clearly psychotic. They evidenced

more hallucinatory behavior, more perceptual deviations, less ability to communicate effectively, more personality disorganization, more incongruous thought content, and more disoriented behavior—at least in the eyes of the mental status examiners, who described them in these terms. Other results showed that they were more likely to think autistically, to be more preoccupied, and to exhibit more mutism. Despite the severity of their illnesses, however, these patients did not differ from the controls on such variables as hostility, resistiveness, anxiety, anger, and depression. Galioni et al<sup>17</sup> had noted similar characteristics. They suggested that while chronic patients are hardly "friendly," they are manageable, relatively agreeable to deal with, and because of their helplessness, lack of resources, and general unobtrusiveness, would tend to summon much attention from the treatment environment that would serve to promote long hospitalization.

Several other salient qualities described these patients. They are extremely stimulus-bound, with little abstraction ability; they are unable to make effective decisions; and they lack ego strength and make little social contact with others, especially in the later part of their hospital stay. These people do not exhibit an active, clinging kind of dependency. In fact, they do not move toward people at all. Early in treatment their conversation, although apparently minimal, at least occurs; as treatment progresses, the MACC ratings indicated they become more withdrawn. As time goes on, they become less bitter and sullen than controls, leading to the speculation that they become comfortable in the hospital environment and do not react negatively to extended stays.

### Record Reading Study

When the preceding study was completed and was discovered that the admission diagnoses did not provide comparable degrees of illness between the groups, we decided to compare the long-stayers with schizo-



phrenic patients in general, through what we designated the Record-Reading Study (Wertheimer, N.: unpublished research report, 1965).

The charts of 67 long-stay patients were reviewed. Nineteen of these had been on follow-up status for at least a year, and were considered not to present a true long-stay problem since probably many *discharged* patients also make use of outpatient support by clinics, private psychiatrists, and other practitioners. Of the 48 long-stayers not on follow-up status for this long, 45 (94%) were schizophrenic. Hence, it appeared that the hard core of Fort Logan's long-stay problem is the old familiar one of chronic schizophrenia.

The schizophrenics who became long-stayers had the following characteristics.

1. Chronic undifferentiated or hebephrenic diagnoses were made.

2. Childhood onset for men was common. Schizophrenic men over 30 at onset were apt *not* to be long-stayers. Age of onset did not differentiate female long-stayers.

3. In accord with the above age-sex prognosis relationship, long-stay men tended to be admitted before age 35, long-stay women after 35. And again, but as a secondary finding, long-stay men admitted to Fort Logan were typically admitted within two years of their first treatment by *any* mental hospital. Women usually had longer histories of mental hospital treatment.

4. Long-stayers were apt to be single, suggesting their problems were severe, early, and continuous enough to prevent marriage in a large number of cases.

5. A randomly selected group of schizophrenics who were discharged from Fort Logan were typically discharged two to five months after admission. About half of those discharged after five months are known to be back in treatment here or elsewhere (compared to only one quarter of the earlier discharges). Over half of the schizophrenics not discharged by nine months apparently become long-stayers.

6. Essentially, all long-stayers, compared to about two thirds of the other schizophrenics, were treated with phenothiazines during their stay.

At this point, and by including the results from an earlier study,<sup>18</sup> we felt we had accumulated some predictive clues about the kind of patients who become long-stayers. Briefly, individuals characterized shortly after admission as chronic undifferentiated or hebephrenic schizophrenics seemed to be good candidates, especially if they had shown either a long history of such symptomatology or had had an early onset of what could be labeled a schizophrenic condition. Those who were not discharged at the end of two to three months of treatment were likely to remain continuously in treatment, or to be discharged but contribute to the readmission problem.

### Comment

This paper has focused on but one important aspect of a community mental health center's program. In our review of the literature we found the proponents of these new programs to be vague about the problem of the chronic patient. The nebulous impression gained from the dearth of references to these individuals is that some theorists and planners consider community mental health centers able to prevent the occurrence of chronic cases, while some authors state that the chronic patient should be housed in custodial centers created from many of the existing state hospitals.<sup>1</sup>

President Kennedy's message noted the role of the state hospital as serving a transitional function to be used for holding the line until the comprehensive community health centers were established.

Until the comprehensive community mental health center program develops fully, it is imperative that the quality of care in existing state mental institutions be improved. By strengthening their therapeutic services, by becoming open institutions serving their local communities many such



institutions can perform a valuable transitional role.<sup>4</sup>

What, then, becomes of the chronic patient? Is he transferred from the comprehensive community mental health center to some kind of backup facility? If the comprehensive community mental health center can handle all its patients by having its resources embedded in the community, then there will be no future need for state hospitals or similar institutions. But if the community mental health center cannot do the job by itself, then there would appear to be a need for some facility to perform the unfulfilled functions.

We realize that the efficacy of community treatment should not be evaluated only along one dimension. Our total experience has indicated that in many of its objectives the community mental health program is effective.

### Some Clinical Considerations

From our data, however, it is painfully evident that while the center has been able to return large numbers of patients to the community, a "hard core" group which is minimally responsive to treatment still remains. The data also demonstrate that such individuals are accumulating at a rapid rate. Thus, these people preempt a growing, significant share of the center's resources, and are gradually reducing the numbers of less sick patients whom we *can* successfully treat.

Our findings are reflected only of one-admission long-stayers and patients who are readmitted. They do not describe our patients being treated in other settings. Despite this limitation, however, we could safely guess that some of the characteristics of our readmitted patients also characterize those who return, not to us, but to other hospitals. Our studies clearly indicate that this unresponsive group is constituted largely by patients characterized by ego disorganization—the chronic schizophrenics. This is, of course, not a surprising finding.

It underscores the fact that it will take more than a reorganization of treatment resources and facilities to solve the complex clinical problem of the chronic schizophrenics.

We leave untouched the whole question of the advisability of returning patients quickly to their communities. There is a growing concern about the *social costs* of maintaining the severely emotionally disabled person in the community.<sup>19</sup> It is not without a price that patients are retained in their community. To the costs of services provided by other agencies, such as welfare, must be added such other less tangible costs as decreased earning capacity, burdens upon family members, and the possible harmful effects of the patients upon others with whom they associate.

### Some Administrative Considerations

Unless there are significant improvements in treatment techniques—improvements perhaps best brought about by intensive research efforts—our experiences suggest that in a very few years every community mental health center which does not transfer its chronic patients quickly to back-up facilities will face this serious problem.

What are some of the administrative considerations raised by the problem of the chronic patient? Should community care be offered and available to all *but* chronic patients? To what extent should the comprehensive community mental health centers be encouraged to grapple with the clinical problems of the unresponsive patient? If this patient is to be transferred, at what point in the clinical course should it happen? If the chronic patients are to be sent to chronic illness centers, will the clinician, in fact, be giving up on the patients? What kinds of clinical programs should be organized for the rear echelon service?

We have just emerged from a period spanning decades in which state institutions for the mentally ill have been isolated, meagerly staffed, and poorly budgeted. We are mov-

ing into an era introducing a new organization of services bringing great resources to bear upon the prevention, treatment, and rehabilitation of the emotionally ill in the community. In part, this "bold new approach" is an attempt to correct the shortcomings of the state hospital.<sup>20</sup> Yet we may be moving in ways which will insure the maintenance and hardening of lines separating first-echelon services from rear-echelon services. For instance, the federal regulation which requires continuity of care would permit a center to provide "comprehensive" treatment for only a few weeks, and then to send patients on to another institution.

We are concerned that this will foster the operation of two systems of care. The comprehensive community mental health center would do its work in the community. The small percentage of patients who do not respond could then be sent on to custodial centers. The custodial center would operate with but a few highly trained staff members and would remain essentially outside the mainstream of the nation's research effort, as well as being only peripherally related to training centers. But doesn't this sound vaguely familiar?

The chronic patient is certainly not our only unsolved clinical problem. But he represents a serious one. And it looks as though there is great danger he will receive only passing attention as we redistribute our considerable resources.

### Summary

In this paper we have reviewed the experience of the Fort Logan Mental Health Center, an institution designed to incorporate many of the features of a comprehensive mental health center. We have noted that there has been much enthusiasm over the development of these comprehensive mental health centers, and an optimistic belief has developed that they will largely or completely eliminate the problem of the chronic custodial patient.

We have examined our experience with two forms of chronic patients, the continuous long-stayer and the readmitted patient, and have found the group largely made up of the chronic, unresponsive schizophrenic, to be present among our patients in significant numbers. We can see that, without new advances in techniques, these numbers will accumulate to constitute an even more substantial portion of our treatment population. We would urge that planners for mental health programs take greater cognizance of this problem, so that the chronic patient does not continue to be a neglected stepchild.

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### Let's Reminisce!

*Virginia Medical Monthly, July 1880.*

#### The Treatment of Fibroids of the Uterus by Dry Earth.

Dr. Addinell Hewson, of Philadelphia, read a paper on this subject. For more than twelve years he had been engaged in the investigation of the value of the use of earth in surgery; and notwithstanding the opposition and ridicule that he had met with, he was glad to announce that its claims were now established to such an extent that he felt amply rewarded for his efforts in this direction. The first case in which he had employed it was one of very large multilocular fibroid. A layer of paste or clay a quarter of an inch in thickness was placed around the abdomen and back, covered with a thin sheet of cotton batting, and secured by a many-tailed bandage. The earth was put on moist in order that the dressing might be more perfectly adjusted. The patient was immediately relieved of all pain, and a reduction in the size of the abdomen was noticeable from the first. At the end of three weeks the abdomen was diminished one-half. Eventually a perfect cure was obtained. It was known that this was no phantom tumor, since at one time the abdomen was opened (by another surgeon) under the impression that there was an ovarian cyst; when it was found that the tumor was attached to the uterus, and weighed thirty pounds. \* \* \* \* \* On autopsy, a large fibroma of the uterus undergoing cystic degeneration was found; the principle cyst contained twenty pounds of fluid. \* \* \* \* \* He exhibited the material he preferred to use, which was the fine yellow clay, such as is employed for making the best Philadelphia brick. Potter's clay did not seem to produce the same beneficial effects. (Abstract of a paper presented before the American Medical Association meeting in New York City, June 1880.)



# *Diagnostic Laboratory Medicine . . .*

## **The Incidence of Unclassified Mycobacteria in the Richmond Area 1958-1966**

The classification of certain Mycobacteria into four groups occurred in 1954. The groups were Group I photochromogens, Group II scotochromogens, Group III non-photochromogens and Group IV rapid growers. Each group probably contains one or more species. All of these organisms have been incriminated in human disease with a pathology indistinguishable from tuberculosis. Unfortunately some of these organisms are found in nature, soil and water, and thus isolations are made from human specimens at times in the absence of demonstrable clinical disease. The frequency of isolations in a laboratory is influenced by the climatic environment of the patient. In northern areas a rate of 1.5% to 2.0% of positive Mycobacterial cultures is an average figure; in southern parts of the country the frequency of isolations is closer to 10%. In the Richmond, Virginia, area the rate was 5% of all positive Mycobacterial cultures. The majority of the patients 56% (147 cases) had a diagnosis of tuberculosis and in about half of these *M. tuberculosis* was also isolated. In those who had no tubercle bacilli isolated the Unclassified Mycobacteria were thought to be the causative agent of the patient's disease in only four cases. Fifteen patients had these organisms isolated from lymph node biopsies associated with granuloma. It was felt that these isolations were related to the patient's disease. The remaining isolations were mainly from patients with nontuberculous pulmonary disease, pneumonia, tumors, emphysema, bronchiectasis and bronchitis. The role, if any, of the Unclassified Mycobacteria in

any of these conditions was never established by the clinician.

A total of 313 isolations were made in the eight years studied. Table I gives the

TABLE I

ISOLATIONS OF UNCLASSIFIED MYCOBACTERIA 1958-1966

Group I	8	2.6%
Group II	226	72.2%
Group III	69	22.0%
Group IV	10	3.2%
Total	313	100.0%

distribution of the various groups. The order of frequency is Group II as the most common followed by Group III. Groups IV and I are of relatively low frequency in this area. The relative frequency of the different groups changes depending on the section of the country where the study is done. For example, in Ohio, Group II was most common followed by Groups I, II, and IV, while in Florida, Group III is most common followed by II, IV and I.

From the clinical point of view in establishing a diagnosis, it is important to have multiple positive cultures before considering these organisms as the etiological agent. Skin testing material is available, but has not proved of great diagnostic importance. The physician treating patients with disease due to these agents should bear in mind that they are usually more resistant to drug therapy than is *M. tuberculosis*.

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## **Follow-Up on Diabetic Suspects**

Diabetes is a constitutional, hereditary, metabolic disease characterized by abnormalities of carbohydrate metabolism. It is important not only because of the abnormalities of body chemistry often resulting in fatal acidosis and coma, but also because it predisposes to the development of other medical conditions such as arteriosclerosis, neuritis, and cataract. The mortality rate for diabetes continues to rise. Analysis of diabetic mortality rate by the National Center for Health Statistics indicates that the mortality rate is tending to level off for females, but there has been an upturn in the diabetes death rate for males.

There are many factors associated with the development of diabetes and many of these can be used in selecting individuals with a high risk of developing the disease. In order to decrease the cost of screening programs per case found, consideration of one or more of these factors is often necessary in developing diabetes screening programs.

Between 1955 and 1965, the State Health Department conducted a program designed to detect diabetes among those individuals in the population who were unaware of having this disease. Screening programs were held in areas throughout the State, using various criteria for the selection of the population to be screened. During this period over 123,000 patients were examined, of whom 4,900 were initially screened as positive.

In most instances, the technique used consisted of drawing a sample of blood which was then qualitatively tested for blood glucose using the clinitron. Positive tests were followed by quantitative tests, and the patient was referred to the family

physician for additional diagnostic studies.

Approximately 25% of the positive tests were on individuals who have previously been known to have diabetes, many of whom had lapsed from treatment. Approximately 25% were new cases who were then placed under treatment by their respective physicians. Approximately one-third were reported by the family physician as not having diabetes, and the remainder received either no follow-up or a follow-up inadequate to determine the diagnosis.

Periodic retesting for diabetes among persons who have had prior positive tests but were not at that time diagnosed as diabetic will identify many new cases of diabetes. Members of this group, already identified, can be assumed to be at high risk of developing diabetes, if in fact they have not already done so. It would, therefore, be reasonable to concentrate additional case finding efforts directed to this population sample of approximately 1,500 patients.

As part of a medical student apprenticeship traineeship under the direction of Dr. R. W. Moseley, Division of Local Health Services, State Department of Health, plans are being made to follow up these previously screened patients. The family physicians of these patients have already received or will receive a letter requesting information regarding the present status of each patient. Every patient who as yet has not been diagnosed as diabetic will receive an invitational visit by one of the medical student trainees, who will explain to him the reason for a repeat glucose screening test. In this instance the test will include a two-hour post glucose loading screening test; and for those who screen positive, a two-hour glucose tolerance test.

The results of the tests will be forwarded

to the family physician and the patient will be advised to contact him for these results. The family physician may then conduct any additional diagnostic studies he desires in confirming or disapproving the diagnosis of diabetes.

One of the objections raised by practicing physicians and patients in previous screening programs has been the necessary over-referrals. Both patient and physician object to a diagnostic study which reveals no disease, however irrational this may seem.

Previous studies have shown that as many as one in four of individuals previously screened positive for diabetes developed overt clinical disease within a two-year period. This study will not only identify new cases of diabetes and bring them under medical supervision, but will provide medical students with a unique opportunity to observe at least one aspect of medical practice throughout the state.

Determinations will be made on capillary blood collected by Unopette. An autoanalyzer will be used for the analysis. Two-hour post glucose loading values in excess of 130 mg. percent will warrant a glucose tolerance test. Participants whose initial post loading value is in excess of 300 mg. percent will be referred directly to their family physician since this value is ordinarily considered indicative of diabetes.

This program is under joint sponsorship of the Virginia Diabetes Association, and patient referrals and follow-up will be made by the Association. We hope to demonstrate a more effective and acceptable diabetes screening program through this project which will prevent overreferral of patients but at the same time remain sufficiently sensitive to detect early diabetes or pre-diabetics.

MONTHLY REPORT FROM BUREAU OF COMMUNICABLE  
DISEASE CONTROL

	May 1967	May 1966	Jan.- May 1967	Jan.- May 1966
Brucellosis -----	10	1	22	8
Diphtheria -----	0	0	0	0
Hepatitis -----	96	30	361	279
Meningitis (Aseptic) ----	1	0	4	2
Meningococcal Infections --	8	10	25	46
Poliomyelitis -----	0	0	0	0
Rocky Mt. Spotted Fever--	1	2	2	4
Rubella -----	101	232	394	694
Rubeola -----	333	392	1710	1414
Streptococcal Infections ---	1466	1141	8017	6908
Tularemia -----	0	0	0	2
Typhoid Fever -----	0	2	2	7
Rabies (in animals)-----	14	23	122	152
Venereal Diseases				
Syphilis -----	176	171	908	766
Gonorrhea -----	780	549	3666	8090
Other -----	4	1	8	8

### Correspondence . . . .

(Continued from page 426)

give medicine the RELATIVE priority it enjoys under the ruthless capitalism of the United States, the complacency of Mr. Kenneth Robinson's (Socialist Minister of Health) party is an awe-inspiring political phenomenon." Nothing is all black or all white in medicine anywhere, and I have tried to present one facet of British medicine in as few words as possible.

In conclusion I ask with Kipling, "What stands if freedom falls?". It is my impression that this sentiment is not unknown in American history.

MERVYN S. C. ROONEY, M.D.

1343 Buford Road  
Richmond, Virginia



# *The Medical Society of Virginia . . . .*

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## **Vincent William Archer, M.D.**

Upon recommendation of Council, the House of Delegates of The Medical Society of Virginia hereby tenders this Distinguished Service Award to Vincent William Archer, M.D.

Medicine, as a profession, has produced many great Americans—scientists, statesmen, and dedicated citizens. Their names can be found sprinkled liberally through the pages of any roll of honor, and the contributions they have made to the well-being of their fellowmen are so varied and numerous as to defy description.

Rarely, however, does one come along who has, during a lifetime of service, made his mark in all three categories—scientist, statesman, dedicated citizen. Such a person is Dr. Vincent W. Archer of Charlottesville, who, on December 31st retired as a member of the House of Delegates of the American Medical Association after fourteen wonderful years. To say that the physicians of Virginia are better off because of Dr. Archer's contributions in their behalf is an understatement. He has been a life-long proponent of good medical practice in Virginia and the nation, a sponsor of expansion and development of the University of Virginia Hospital, a great teacher of students and residents, and a good friend to all.

Dr. Archer has compiled an illustrious record during the years since he received his medical degree in 1923 from the Medical Department of the University of Virginia. He became a Diplomate of the American Board of Radiology Founders' Group in 1924, and that same year was made head of the Department of Roentgenology at the University of Virginia. Dr. Archer is a past President of The Medical Society of Virginia, a past Chairman of the Council of the Southern Medical Association, past Chairman of the Board of Chancellors, American College of Radiology, past

President of the Virginia Radiological Society, past President of the Albemarle County Medical Society and past President of the Piedmont Medical Society. Dr. Archer has also served as Chairman of the Board of the Virginia Medical Service Association, and Chairman of the Executive Committee of the American Roentgen Ray Society. He was one of the founders and a President of the University of Virginia Medical Alumni Association, member of the Executive Committee of the Virginia Council of Health and Medical Care, and a member of the AMA Committee on Federal Medical Services. He holds honorary membership in the British Institute of Radiology and many other outstanding scientific organizations. He has the high honor of having received The Gold Medal Award of The American College of Radiology for Distinguished Service.

While Dr. Archer has won the admiration of a grateful profession for his contributions to science, it is in the hearts of those who know him personally, and cherish his friendship, that his selfless deeds will always be remembered. And so it is that the following Resolution is offered in fitting tribute to this most distinguished and beloved physician.

**BE IT RESOLVED:** That The Medical Society of Virginia, through its Officers and Council, express to Dr. Vincent W. Archer its sincere appreciation of the many contributions he has made to his Profession, his State, and his Nation over the years, and be it further

**RESOLVED:** That The Medical Society of Virginia officially commend Dr. Archer for the truly magnificent job he has performed as that organization's Delegate to the American Medical Association during the years from 1952 through 1966.

WALTER P. ADAMS, M.D., *Chairman*

JOHN ROGERS MAPP, M.D.

CAREY A. STONE, JR., M.D.

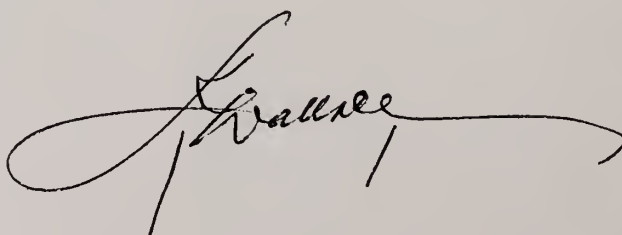
## *The President's Page . . . .*

WE HAVE JUST RETURNED from our annual luncheon meeting with our representatives in Congress. Our meeting, as usual, was fruitful and the rapport, if possible, was even improved over previous occasions. Virginia physicians have reason for elation with our Congressional delegation; for as Tom Edwards so succinctly expressed it, "We have an excellent bunch up there; we've reason to be proud of them; we've got good friends."

Perhaps one of the least understood, and surely one of the most controversial subjects with which we have to deal is doctor ownership of drug stores. We'll try to clarify this and emphasize the Society's present position:

1. It is not illegal nor unethical for a physician to own a drug store.
2. It is unethical for a physician to own a drug store and conduct himself in such a way that he's exploiting his patients for personal financial gain.
3. Questions of ethics are a local area level concern. The Ethics Committee of the state organization will enter such controversies provided: a. the local area cannot adjudicate the conflict; b. requests the state committee to do so in writing; and, c. all parties concerned agree to abide by the decision of the state committee.
4. Under the law, a registered pharmacist must man a drug store and this includes those owned by physicians.

In a recent communication from the A.M.A., we find the following, "Why don't the druggists pass an ethic making it improper for a druggist to work in a pharmacy owned by physicians?" While we don't ascribe to anything so drastic, we doubt if an allegedly "unethical" drug store would thrive under threat of such a restriction.

A handwritten signature in cursive script, likely belonging to the President of The Medical Society of Virginia. The signature is fluid and stylized, with a large initial 'F' and a long, sweeping underline.

*President, The Medical Society of Virginia*

## The Pageant of Medical History

FOREWORD: This will be a quadripartite composition designed to appear in four issues of Virginia Medical Monthly. It will bear, (1) upon the origin of medicine as a profession (whence and why), (2) upon a recognition of modern medicine's most meritorious minions (who and which), (3) upon medical progress and its reasons (where and what), and (4) upon the outlook (whither and when).

### (A) WHENCE AND WHY

*Medicine arose out of the primal sympathy of man with man  
—out of the desire to help them in sorrow, need and sickness."*

—OSLER

IT HAS BEEN the custom of historians to consider medicine under three principal heads: prescientific, ancient and modern.

### I. PRESCIENTIFIC MEDICINE

Among savage and barbaric people knowledge accumulates extremely slowly. Physical injury as a result of one's own devices—whether purposefully or not—came early, of course, to be recognized. In the absence of self imposed abuse or accident, early man regarded illness as an affliction visited upon him at the instigation of his fellowman by either actual or magical means. Therefore, among primitive people treatment has always been magical or purely empirical. Even up to the present this propensity on the part of people the world over, to some extent, is evident and particularly is this so among only partially civilized races. Nevertheless, a system of medicine has existed among all cultures within the scope of authentic history.

The earliest figure significantly to leave his imprint upon prescientific medicine was Imhotep of Egypt. He was physician to King Zoser of the third dynasty (3,000 B. C.). Imhotep was looked upon as a God and in Egypt, down through the ages to relatively recent times, temples have been erected to him.

In ancient Egypt ointments, potions and poultices were used as were honey, salt, cedar oil, sycamore bark, copper sulfate, alum, brains, liver, heart and blood of various animals. Stag horn and camomile were also used as were emetics and clysters.

Mesopotamian medicine was considered to have been rather highly developed. By Mesopotamians the liver was regarded as a central organ. Inferences to this effect may be found in the Old Testament. Such medicaments as asafoetida, castor oil, cedar, fig, henbane, mint, mandrake, mustard, myrrh, poppy and turpentine are known to have been used by the Mesopotamians.

In ancient India as well as in ancient China concepts of the cause of



disease were extremely obscure however, their pharmacopeias appear to have been enormous and to have consisted mainly of vegetable principles. Diabetes mellitus was first detected by Hindu physicians who observed that flies were attracted by the urine of those so afflicted.

## II. ANCIENT MEDICINE

The first rational scientific system of medicine was created by the Greeks. Greek scientific medicine was in its ascendancy from about 500 B. C. until the rise of the Roman Empire. The roots of the Greek system of medicine extended to Mesopotamia (Iraq), Egypt, Persia (Iran) and India; all of which ancient nations contributed something to the standardization of medical procedures adopted by the Greeks.

Hippocrates, born 460 B. C. on the Greek Island of Cos in the Mediterranean, and to this day generally regarded as the "father of medicine", looms up as possibly the most noted figure in the entire history of medicine. At least, he has marched at the head of the column of the disciples of this profession for approximately 24 centuries.

Hippocrates was a philosopher, a physician and a writer. He leaned heavily upon the healing powers of nature and, as has been observed by various medical historians, his writings bespeak an elderly physician reflecting upon an experience packed lifetime.

In 384 B. C.—seven years after the death of Hippocrates—Aristotle, destined to be reckoned as "the great codifier of ancient science" appeared upon the scene in Greece and the whole subsequent course followed by medicine of that day came to bear something of his hallmark.

When the ideas of Aristotle concerning four fundamental primary and opposite qualities, i.e., heat, cold, wet and dry; and four essences of existence, i.e., earth, air, fire and water merged with the views of Hippocrates relative to four "humours" or liquids, i.e., blood, phlegm, black bile and yellow bile, "humoural" pathology or disease was a consequence and the doctrine of the "temperaments" which has its analogue in modern medicine emerged.

Aristotle died in 322 B. C. and about 300 B. C. a great medical school came to flourish in Alexandria, Egypt. Two of the teachers of that school stand out in the history of medicine. One was Herophilus of Chalcedon who was the first to dissect the human body in public. He also is credited with having been the first to grasp the difference between motor and sensory nerves. The other was Eristratus of Chios, a contemporary of Herophilus. Eristratus had some original ideas about how nature worked to shape the ends to which the human body acted. To render Physiology more nearly understandable he embraced a concept termed pneumatism, or a theory that life depended upon a subtle vapor—a pneuma or spirit. It was closely related to or in league with respiration. This theory was indeed of signal historical importance because it tied in with the nature of life in all of its forms.

The ideas of Eristratus regarding vessels, veins, arteries and nerves would appear to have been fundamentally sound. His knowledge of the

structure of the brain and how vital or animal spirits were sent to various parts of the body by nerves and through the blood was interesting. He believed an excess of blood to have been a chief cause of disease and an effort at diminishing the volume of blood either by diet or by blood letting was a common practice among physicians of the period although his biography indicates that Eristratus himself employed it only rarely and it was discontinued entirely by his successors. Thus is it borne out how medical measures and methods, lost in the haze of antiquity, may be resurrected and reemployed. At any rate, Eristratus was opposed to strenuous medical modalities and preferred to rely upon diet, exercise and vapor baths.

While medical historians have, in the main, been disposed to record that medicine under the Roman Empire amounted to very little and that the Latin speaking people produced no eminent physician, it cannot be gainsaid that certain monumental medical advances were made during this era. It is undoubtedly true that originally medicine of the Roman system was on an inferior plane, its exponents were people of low culture and that whatever change transpired to elevate its status was due to the influx of Greek influence. It seems worthy of note that 40 years B. C. a Greek whose name was Asclepiades and who, at a private school was the earliest scientific medical teacher in Rome, held the expectant treatment of Hippocrates to be merely a "meditation on death". He urged that active measures designed to effect a cure as simply and as surely as possible be instituted.

At any rate, on the credit side of Rome's medical ledger—in its own right—it can be stated that Dioscorides who served in the Army of Nero (37-68 B. C.) was a relatively prominent physician of antiquity. He, in fact, is credited with having influenced modern pharmacology. The major emphasis upon medicine in that tide of time was geared to military needs.

About 30 A. D. Celsus prepared the earliest scientific medical treatise in Latin. It was called the *De re Medicus*.

The ashes of Pompeii have yielded samples of surgical instruments used in the time of Celsus.

It is significant that the Romans did take into serious account the location of buildings with respect to drainage of the area. From an early date sanitation was stressed as a feature of Roman life. As early as 600 B. C.—during the age of the Tarquins—Rome was provided with sewers. The Cloaca Maxima, still the main drain of Rome, dates back to that time. The best medicine system in Rome was that extant in the Army where there appears to have been an adequate number of well organized medical facilities and personnel.

Rome moreover contributed the hospital system and its organization was also connected with the military. Sick and worn out slaves were placed in a temple to Aesculapius on an island in the Tiber. The Emperor Claudius (41-54 A. D.) decreed that if slaves recovered there they need not be returned to their masters.

The emphasis now shifts back to Greece and to Galen (130-200 A. D.) of Pergamum (a city in ancient Asia Minor, now a part of Greece). Here was one of the most towering figures in all of medicine. He is said to have provided the final medical synthesis of antiquity and the effective medical standard for 13 centuries. His concepts with regard to physiology remained in vogue until the 17th century. Galen's comprehension of physiology took into account three types of so-called spirits associated with 3 types of activity of living things, (1) natural spirits formed in the liver and distributed by the veins, (2) vital spirits formed in the heart and distributed by the arteries and (3) animal spirits formed in the brain and distributed by the nerves.

Galen had no actual successor. All of mediaeval medicine has been characterized by various chroniclers as a corrupted form of Galenism. For over one thousand four hundred years the eclipse of the Dark Ages hung heavily over the profession of medicine. Its scientific progress ground to a halt and so remained until the advent of the Renaissance. The *raison d'être* for the Dark Ages constitutes one of the most intriguing and at the same time one of the most imponderable enigmas in the history of the human race.

H. LAMONT PUGH, M.D.

## A New Tax on the Medical Journals

SEVENTEEN YEARS AGO Congress passed a law designed to curb an abuse on the part of a tax-free university, which attempted to operate a factory, which would compete with producers of the same product which did not enjoy a tax-free status. Now, 17 years later, Commissioner of the Internal Revenue Service, Sheldon S. Cohen proposes, in brief, to amend Regulations to provide that the sale of advertising in professional journals is not an activity "substantially related" to any purpose for which tax exemption has been granted in the past, even though the editorial content of such journals may be to further exempt purposes.



# In peptic ulcer... antacid therapy with a new benefit



CONTAINS A BALANCED  
COMBINATION  
OF THE MOST WIDELY  
USED ANTACIDS—  
FOR RAPID  
NEUTRALIZATION.  
PLUS SIMETHICONE—  
TO CONTROL  
THE FACTOR WHICH  
ANTACIDS ALONE  
CANNOT INFLUENCE.

## Mylanta<sup>®</sup>

- In Mylanta, aluminum and magnesium hydroxides are balanced to minimize the chance of constipation or laxation and still achieve rapid acid neutralization and pain relief.
- The positive action of simethicone helps relieve the painful gas symptoms which often accompany the peptic ulcer syndrome.
- The nonfatiguing flavor and smooth, nongritty consistency of tablets and liquid encourage continued patient cooperation during long-term therapy.

**Composition:** Each Mylanta chewable tablet or teaspoonful (5 ml.) of liquid contains: magnesium hydroxide, 200 mg.; aluminum hydroxide, dried gel, 200 mg.; simethicone, 20 mg. **Dosage:** one or two tablets, well chewed or allowed to dissolve in the mouth, or one or two teaspoonfuls of liquid to be taken between meals and at bedtime.

The Stuart Company, Pasadena, California  
Division of Atlas Chemical Industries, Inc.

**Stuart**



## "All Interns are Alike"

It stands to reason. They all go through the same training; they all have to pass the same tests; they all have to measure up to the same standards; they all are underpaid, too. Therefore, all interns are alike.

That's utter nonsense, of course. But it's no more nonsensical than what some people say about aspirin. Namely: since all aspirin is at least supposed to come up to certain required standards, then all aspirin tablets must be alike.

Bayer's standards are far more demanding. In fact, there are at least *nine specific differences in-*

volving purity, potency and speed of tablet disintegration. These Bayer® standards result in significant product benefits including gentleness to the stomach, and product stability that enables Bayer tablets to stay strong and gentle until they are taken.

So next time you hear someone say that all aspirin tablets are alike, you can say, with confidence, that it just isn't so.

You might also say that all interns aren't alike, either.



Mr. Cohen is attempting to impose a 48% tax on the net advertising income of virtually all professional journals which serve as official publications of the tax-free organizations of this country. This zealous effort on the part of our Commissioner of Internal Revenue was brought to light by Representative Joel T. Broyhill, of Northern Virginia's Tenth Congressional District, in a speech in the House of Representatives on April 5. Mr. Broyhill listed about 50 organizations that would be seriously affected and in some cases, no doubt, would be wiped out. Virtually every national organization would be badly hurt. These would include such diversified groups as the Boy Scouts of America, the American Heart Association, the National Geographic Society, the National Paraplegic Foundation, and the American Bar and the American Medical Associations.

Mr. Broyhill did not mention the Virginia Medical Monthly, but the ruling, of course, will apply to us. Our journal has been in the red ever since the late Senator Kefauver's committee curtailed the advertising of the larger pharmaceutical companies. The drug houses have gradually resumed their former advertising programs but the pattern has changed and the weekly medical newspapers and national journals now receive the major share of their advertisements.

In recent years our journal has been subsidized by The Medical Society of Virginia to the extent of \$7,500 to \$8,000 annually. If Commissioner Cohen's plans materialize, we will lose about one-half of our advertising and this is the sole source of our income. This will mean that our annual deficit will climb to \$20,000. This, of course, will be felt by every member of our Society.

It is hard to believe that Mr. Cohen will distort this 17-year-old regulation to the extent of including the many publications listed in Mr. Broyhill's speech. It is, indeed, hard to believe this, until we recall that the Commissioner of Internal Revenue is charged with the duty of finding every additional dollar to pour into our Operation Federal Rat Hole. Congress alone can check this travesty.

In his address on April 25, Mr. Broyhill stated he was "today introducing legislation which in effect deems advertising income in publications of education, charitable, and scientific non-profit associations to be related to the objectives for which such organizations were established and given tax-free status." If appropriate legislative action has not been taken by the time this issue of the journal has appeared, the members of The Medical Society of Virginia should urge our congressmen to support Mr. Broyhill's bill. We are all indebted to him.

H. J. W.



# Wounds, abscess, cellulitis



# ...and the complications of staph.

## Staph reliably controlled with specific therapy

From time of birth, the child is exposed to a whole range of potential staph infections: wounds; secondarily infected dermatoses; primary lesions, such as deep impetigo (ecthyma), boils and felons; and more serious conditions such as osteomyelitis, staph pneumonia and staph meningitis.

### Bactericidal

Hardly a staph organism can resist the bactericidal action of Prostaphlin® (sodium oxacillin), as shown by a 34-month *in vitro* study. Of all staph isolates tested, 99.5% were sensitive to oxacillin.<sup>1</sup>

### Clinically Proven

There is a high correlation between these *in vitro* findings and clinical results. Of 610 patients treated with Prostaphlin (sodium oxacillin), 89.8% were reported cured or improved, including those with staph infections resistant to penicillin G.<sup>2</sup> And since resistance does not appear to develop *in vivo*, therapy with oxacillin can be extended when necessary.

### Outstanding Safety Record

Besides being staph-specific and rapidly absorbed—Prostaphlin (sodium oxacillin) has established an outstanding record of safety during five years of widespread clinical use. Continuous high blood levels of oxacillin have not produced toxic effects on kidney function, assuring a significant margin of safety. However, as with all penicillins, the possibility of allergic response should be considered.

### Capsules, Oral Suspension and Injectable

Prostaphlin (sodium oxacillin) is available in three flexible dosage forms to suit the age of the patient and severity of infection—an oral solution for pediatric use, capsules, and multi-dose vials for injection.

**PRESCRIBING INFORMATION:** For complete information, consult Official Package Circular. **Indications:** Infections caused by Staphylococci, particularly those due to penicillin G-resistant Staphylococci. **Contraindications:** A history of severe allergic reactions to penicillin. **Precautions:** Typical penicillin-allergic reactions may occur. Safety for use in pregnancy and premature infants is not established. Because of limited experience, use cautiously and evaluate organ system function frequently in neonates. Mycotic or bacterial superinfections may occur. Assess renal, hematopoietic and hepatic function intermittently during long-term therapy. **Adverse Reactions:** Skin rashes, pruritus, urticaria, eosinophilia, nausea, vomiting, diarrhea, fever and occasional anaphylaxis. Rare cases of reversible hepatocellular dysfunction have occurred. Moderate SGOT elevations have been noted. Thrombophlebitis has occurred occasionally during intravenous therapy and leukopenia was noted in two cases. **Usual Oral Dosage:** Adults: 500 mg. q. 4 or q. 6 h. Children: 50 mg./Kg./day. **Usual Parenteral Dosage:** Adults: 250-500 mg. q. 4 or q. 6 h. Children: 50 mg./Kg./day. Treat beta-hemolytic streptococcal infections for at least 10 days. Give oral drug 1 to 2 hours before meals. **Supplied:** Capsules—250 and 500 mg. in bottles of 48. Injectable—250 mg., 500 mg., and 1 Gm. dry filled vial for I.M./I.V. use. For Oral Solution—100 ml. bottle, 250 mg./5 ml. when reconstituted.

A.H.F.S. CATEGORY 8:12.16

**References:** 1. Abstracted from *Antibiotic Sensitivity of Staphylococci Studied from November 1962 through August 1965*, reported by Griffith, L.J., Staphylococcus Reference Laboratory, V.A. Hospital, Batavia, N.Y. 2. Data on file, Bristol Laboratories.

**BRISTOL**

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Whenever you  
suspect staph  
**PROSTAPHLIN®**  
SODIUM OXACILLIN



*A suitable dosage form for every staph situation*

### Calendar of Events

MEDICAL ASPECTS OF SPORTS CONFERENCE—Sponsored jointly by The Medical Society of Virginia and Virginia High School League—Virginia Polytechnic Institute, Blacksburg—July 23, 1967.

NEW DEVELOPMENTS IN CARDIO-PULMONARY DISEASE—Symposium Sponsored by Danville-Pittsylvania Academy of Medicine—Midtown Motor Hotel—Danville—September 8, 1967.

EIGHTH ANNUAL CARDIOVASCULAR SYMPOSIUM—Sponsored by Tidewater Heart Association—Golden Triangle Motor Hotel—Norfolk—September 15-16, 1967.

27TH ANNUAL AMA CONGRESS ON OCCUPATIONAL HEALTH—Regency-Hyatt House—Atlanta, Georgia—September 25-27, 1967.

15TH ANNUAL SEMINAR—Sponsored by Bluefield Sanitarium, Bluefield, West Virginia, Stevens Clinic, Welch, West Virginia and Clinch Valley Clinic, Richlands, Virginia—Seminar will feature speakers from Medical College of Virginia, Duke University Medical Center, Medical College of Georgia, and University of Indiana Medical Center—Bluefield Country Club—afternoon and evening of October 12, 1967.

WILLIS ORATION—Lecturer will be Dr. Douglas Clark, Glasgow, Scotland—Especially for Johnston-Willis Staff and members of the Richmond Academy of Medicine—Country Club of Virginia—Richmond—6:00 p.m., October 13, 1967.

ANNUAL MEETING OF THE MEDICAL SOCIETY OF VIRGINIA—Marriott Twin Bridges Motor Hotel—Arlington—October 19-22, 1967.

9TH NATIONAL CONFERENCE ON THE MEDICAL ASPECTS OF SPORTS—Hotel America—Houston, Texas—November 26, 1967.

CLINICAL CONVENTION OF AMERICAN MEDICAL ASSOCIATION—Houston, Texas—November 26-29, 1967.

### New Members.

The following members were received into The Medical Society of Virginia during the month of May:

Walter Edward Anderson, M.D.  
Alexandria  
Luis Sabel Awapara, M.D., Falls Church  
James C. Beyer, M.D., Arlington  
Lee Add Blakely, Jr., M.D., Falls Church  
Allan Bartlett Cady, M.D., Richmond  
Marcos Chapunoff, M.D., Virginia Beach  
John Colge, Jr., M.D., Roanoke  
Harvey Lee Griffin, M.D., Petersburg

David Ilchi Kabir, M.D., Annandale  
Nikos Kakaviatos, M.D., Arlington  
Yi-Mou Liu, M.D., Clifton Forge  
Malcolm George MacAulay, M.D.,  
Radford  
Arnold Manheim, M.D., Danville  
Preston Cocke Manning, Jr., M.D.,  
Staunton  
William Irvin Neikirk, M.D.,  
Charlottesville  
Maurice Nottingham, Jr., M.D.,  
Richmond  
Robert Willard Preston, M.D.,  
Harrisonburg



James Patrick Rotchford, M.D.,  
Arlington  
Carl Milton Russell, M.D., Roanoke  
Claude Armistead Smith, M.D., Norfolk  
Jerome Frost Smith, M.D., Richmond  
Andree Raymonde Thomas, M.D.,  
Fairfax  
George Ely Walker, M.D., Marion

#### **Appointment to State Board of Health.**

Governor Mills E. Godwin has appointed Dr. Fletcher J. Wright, Jr., Petersburg, to be a member of the State Board of Health for a seven-year term succeeding Dr. James L. Hamner, Mannboro. Dr. Hamner has been president of the Board since 1954 but was not eligible for re-appointment, having served two terms.

#### **Neuropsychiatric Society of Virginia.**

Dr. Merritt W. Foster, Jr., Richmond, has been named president of this Society, succeeding Dr. Robert D. Gardner, Lynchburg. Dr. Milton D. Friedenberg, Richmond, is president-elect and Dr. R. Terrell Wingfield, Lynchburg, secretary-treasurer.

#### **Virginia Diabetes Association.**

At the spring meeting of this Association, held at The Homestead, Hot Springs, March 2nd, the following officers were elected: president, Dr. H. St. George Tucker, Richmond; vice-presidents, Dr. John A. Owen, Jr., Charlottesville, and Dr. James M. Moss, Alexandria; and secretary-treasurer, Dr. Bernard H. Miller, Norfolk.

#### **Dr. William R. Watkins,**

South Boston, has been re-elected to the Board of Directors of the Virginia State Chamber of Commerce.

#### **Dr. Carl E. Stark,**

Wytheville, has been re-elected president of the Wythe-Bland-Smyth-Pulaski Development Corporation.

#### **Dr. W. R. Ferguson,**

Who has served as health director for the Dinwiddie, Sussex, Surry, Prince George, Hopewell District since 1958, has been named director of the Crippled Children's Bureau of the Virginia State Department of Health. The appointment became effective May 1st.

#### **Dr. Hoff Cited.**

Dr. Ebbe C. Hoff, Medical College of Virginia, has been cited by the Richmond Area Mental Health Association for his efforts in its field. Certificate of commendation was presented to him for his work in alcohol therapy and research with the division throughout its 19 years.

#### **The Virginia Association of Professions**

Is now engaged in a membership drive. To date The Medical Society of Virginia is represented by only 2% of its members. In order that VAP may be an effective and potent force by the time of the 1968 General Assembly, they would need at least a 25% membership of individuals. VAP is composed of the American Institute of Architects, Virginia State Bar Association, Virginia Pharmaceutical Association, Virginia Society of Professional Engineers, Virginia Society of Certified Public Accountants, Virginia State Dental Association, Virginia Veterinarian Medical Society, and The Medical Society of Virginia.

Among its purposes are the strength obtained by the combined efforts of the several professions to protect the freedoms upon which professionalism is dependent, promoting understanding between professions, fostering higher standards of education, ethics, and conduct, pre-professional and postgraduate education, aiding in educational programs for para-professional personnel, leadership by the professions in community affairs, and the protection of the public by those not qualified.

The annual dues are \$10.00. Application

for membership, accompanied by the annual dues, may be made to Virginia Association of Professions, P. O. Box 5190, Richmond, Virginia 23220.

## Medicine and Religion

The Committee on Medicine and Religion of the Lynchburg Academy of Medicine has been very active under the capable guidance of Dr. Kenneth Cooper, the Chairman, who arranged a joint meeting of the Lynchburg Academy of Medicine and The Lynchburg Ministerial Association.

Mr. Arne Larson, Assistant Director of the Department of Medicine and Religion of the American Medical Association was present.

Prior to the meeting, Reverend Edward Temple, Chaplain for the Lynchburg General Hospital, Mr. Robert E. Evans, Chaplain for the Virginia Baptist Hospital, Dr. John G. Novak, Psychiatrist of Lynchburg, Mr. Arne Larson, and Dr. John Wyatt Davis, Jr., made a 22 minute TV Tape which was shown Sunday, May 14, over WLVA-TV. This was an "off the cuff" discussion of problems and their solutions.

Dr. William H. Barney opened the meeting, followed by a few remarks from Dr. Cooper. Dr. John Wyatt Davis, Jr., presented Mr. Arne Larson who gave a talk concerning the background of the Department of Medicine and Religion of the American Medical Association.

This was followed by a panel:

Rev. Richard D. Tyree—"Types of Patients a Minister Can Help"

Dr. Walter R. Holland—"Medicine & Religion: A Combined Effort"

Dr. Richard N. deNiord—"The Patient As Seen By A Physician"

Rev. J. J. Bowman—"The Patient As Seen By A Minister"

In the Lynchburg area, plans are for the appointment of a committee by the Lynch-

burg Ministerial Association to work with the committee on Medicine and Religion of the Lynchburg Academy of Medicine and there is consideration for rotating monthly meetings at the three hospitals, these meetings to consist of 10 members each from the Lynchburg Academy of Medicine and the Lynchburg Ministerial Association.

It is hoped that out of these meetings there will develop better communications and understandings between the members of the Lynchburg Academy of Medicine and the Lynchburg Ministerial Association which will result in each group better serving both patients and parishioners—this after all is the goal of all of us.

JOHN WYATT DAVIS, JR., M.D.

## Location Wanted.

Anesthesiologist, FACA, wants relocation to State of Virginia. Tidewater area preferred. Licensed, experienced, fee for service preferred, group or partnership accepted. Write #135, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

## Wanted.

Board certified or eligible ophthalmologist to be associated with group in Clifton Forge, Virginia. Opportunity for large practice, vacancy immediate. Apply to J. M. Emmett, M.D., Chesapeake and Ohio Hospital, Clifton Forge. (*Adv.*)

## Office Space Available

In Medical Dental Center of Arlington, Virginia. Suites available for specialists and general practitioners. For further information, call Archibald R. MacPherson, M.D., 703-527-4466. (*Adv.*)



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### Results on skin are final proof of any topical antibiotic's effectiveness

No in vitro test can duplicate a clinical situation on living skin. 'Neosporin' (polymyxin B — bacitracin — neomycin) Ointment has consistently proven its effectiveness in thousands of cases of bacterial skin infection. The spectra of the three antibiotics overlap in such a way as to provide bactericidal action against most pathogenic bacteria likely to be found topically. Diffusion of the antibiotics from the special petrolatum base is rapid since they are insoluble in the petrolatum, but readily soluble in tissue fluids. The Ointment is bland and nonirritating.

**Caution:** As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

**Contraindications:** This product is contraindicated in those individuals who have shown hypersensitivity to any of its components.

**Supplied:** Tubes of 1 oz., ½ oz. with applicator tip, and ⅛ oz. with ophthalmic tip.

Complete literature available on request from Professional Services Dept. PML.

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## POLYMYXIN B-BACITRACIN-NEOMYCIN OINTMENT



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# Why these 7 patients with **moderate to severe anxiety** may respond better to Mellari

## 1. The agitated patient.

Anxiety—particularly that beyond the range of minor tranquilizers—frequently is expressed as gross motor restlessness, fidgetiness and purposeless movements, and may erupt into aggressive behavior. Mellaril is almost a specific for those patients whose anxiety follows such a pattern.





### The psychosomatic patient.

The family physician is rarely given the diagnostic luxury of a classic textbook "anxiety state." Most often he must probe for anxiety masked by a functional disorder—or which exacerbates a somatic problem. Double-blind evaluations have demonstrated that Mellaril can be a significant adjunct in the treatment of such patients.



### The patient under situational stress.

Mellaril helps the patient deal with stresses of everyday life. Nonhabituating, it can be given for extended periods of time. It does not "separate" the patient from practical problems and pressures, does not induce euphoria or a fuzziness which can compromise the ability to cope with realities. Rather, it helps the patient move more competently in his daily world by eliminating useless tension, by allowing him to conserve emotional resources and energies, and to direct them against the problems really worth worrying about.



### 4. The menopausal patient.

The woman who sees change of life as the end of useful life requires support from both family and family physician. Whether the psychological impact of menopause is directly related to hormonal changes, or merely coincidental, is debatable, but estrogenic therapy is frequently inadequate. Mellaril is a useful aid for these patients and, alone, or in combination with reduced estrogen dosage, will help ease the menopausal misery.



### 5. The previously hospitalized psychiatric patient.

Such a patient may still require the type of medication he has been accustomed to, but because he is no longer in a controlled setting the acceptable level of adverse reactions must be lower. In such circumstances Mellaril is perhaps the drug of choice.



### 6. The agitated geriatric.

Tranquilizer therapy in the elderly patient always involves special (or at least accentuated) problems: the possibility of drug-induced ataxia, hypotension or depression, for example, assumes an additional significance. These reactions have rarely been observed in geriatric patients treated with Mellaril.



### 7. The constantly returning patient.

The anxiety patient who has not responded to a minor tranquilizer is not very likely to benefit from your minor tranquilizer of second choice. A major tranquilizer, such as Mellaril, may be indicated in such patients.

**Contraindications:** Severely depressed or comatose states from any cause, and in association with or following MAO inhibitors; severe hypertensive or hypotensive heart disease.

**Precautions:** Hypersensitivity reactions (e.g., leukopenia, agranulocytosis) and convulsive seizures are infrequent. Pigmentary retinopathy has been observed where doses in excess of those recommended were used for long periods of time. May potentiate central nervous system depressants, atropine, and phosphorus insecticides. Where complete mental alertness is required, administer the drug cautiously and increase dosage gradually. In addition, orthostatic hypotension (especially in female patients) has been observed. Epinephrine should be avoided in treatment of drug-induced hypotension.

**Side Effects:** Pseudoparkinsonism and other extrapyramidal disorders are infrequent; drowsiness, especially in high doses early in treatment, may occur; nocturnal confusion, dryness of the mouth, nasal stuffiness, headache, peripheral edema, lactation, galactorrhea, and inhibition of ejaculation are noted on occasion; photosensitivity and other allergic skin reactions may occur but are extremely rare.

*Before prescribing, see package insert for full product information.*

in moderate to severe anxiety, 25 mg. t.i.d.

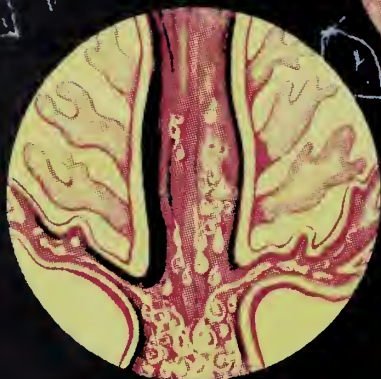
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# Destroys Trichomonads Wherever They Are

**Flagyl** seeks out the sites where trichomonads hide. Only a systemic agent can. Flagyl does, selectively and effectively.

Flagyl destroys trichomonads in the inner crypts, glands and cavities of the genitourinary tract in both women and men. Consequently, Flagyl is capable not only of curing trichomoniasis in women but also of preventing reinfection.

Correctly used, with due attention to repeat courses of treatment for resistant, deep-seated invasion and to the presumption of reinfection from male consorts, Flagyl has repeatedly produced up to 100 per cent cure in large series of patients.

When the diagnosis of trichomoniasis is positive, Flagyl is positive.

*Dosage and Administration*—In women: one 250-mg. oral tablet three times daily for ten days. A vaginal insert of 500 mg. is available for local therapy when desired. When used, one vaginal insert should be placed high in the vaginal vault each day for ten days; concurrently two oral tablets should be taken daily.

In men in whom trichomonads have been demonstrated: one 250-mg. oral tablet twice daily for ten days.

*Contraindications*—Pregnancy; disease of the central nervous system; evidence or history of blood dyscrasia.

*Precaution*—Complete blood cell counts should be made before, during and after therapy, especially if a second course is necessary.

*Side Effects*—Infrequent and minor side effects include nausea, metallic taste, furry tongue and headache. Other effects, all reported in an incidence of less than 1 per cent, are diarrhea, dizziness, vaginal dryness and burning, dry mouth, rash, urticaria, gastritis, drowsiness, insomnia, pruritus, sore tongue, darkened urine, anorexia, vomiting, epigastric distress, dysuria, depression, vertigo, incoordination, ataxia, abdominal cramping, constipation, stomatitis, numbness of an extremity, joint pains, confusion, irritability, weakness, flushing, cystitis, pelvic pressure, dyspareunia, fever, polyuria, incontinence, decreased libido, nasal congestion, proctitis and pyuria. Elimination of trichomonads may aggravate candidiasis.





at the site of infection  
(where it counts)...



# Ilosone® provides more antibacterial activity than any other oral erythromycin

**Acid stable, better absorbed... Ilosone produces faster, higher, more prolonged blood levels, even in the presence of food<sup>1,3</sup>**

Because it is the most active form of oral erythromycin, Ilosone can help assure consistently greater antibacterial activity at the site of infection. Ilosone produces peak antibacterial blood levels two to four times those of other erythromycin preparations.<sup>1,2</sup> Not only are these levels attained earlier, but they are maintained for much longer periods. Even the presence of food does not seem to affect the activity of Ilosone.<sup>1,3</sup>

In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels

attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

**Now available:**

New! Ready-mixed Ilosone Liquid 125!  
(Contains erythromycin estolate equivalent to 125 mg. erythromycin base per 5-cc. teaspoonful.)

**Ilosone®**  
Erythromycin Estolate

700970



*(See next page for prescribing information.)*



# Ilosone®/the most active oral form of erythromycin

**Description:** Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

**Indications:** Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have also been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone. **Contraindications:** Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with pre-existing liver disease or dysfunction.

**Adverse Reactions:** Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have developed in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly, usually within forty-eight hours, if the drug is readministered to sensitive patients. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to be definitely related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalin flocculation and thymol turbidity tests, elevated serum glutamic oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has not been reported in other patients taking prolonged courses of the medication. Patients with chronic infection have been given 1 to 2 Gm. of the drug daily for periods of two to six months, and patients with rheumatic fever have taken prophylactic doses of 0.5 Gm. daily for two years without difficulty. In one group of 144 patients who received the drug daily for two years, no jaundice was noted. It was of interest that members of six of these patients' families, who were not taking the drug, had episodes of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels were determined in a group of fifty-four adults and children who took 250 mg. of Ilosone daily for an average of sixteen months as rheumatic fever prophylaxis. The results were compared with those of a similar group of forty-four patients who received penicillin. There were no cases of jaundice in either group. Elevation of SGPT and serum alkaline phosphatase levels during the course of treatment was observed in one patient treated with Ilosone and in two patients treated with penicillin. Seven other patients in the group receiving Ilosone and four others in the penicillin group showed elevations in one of the tests at some time during administration of the drugs.

Very satisfactory therapeutic results, without toxicity, were reported in 102 pediatric patients who received short-term (ten day) courses of Ilosone in the treatment of streptococcus infections. Results of liver function tests in these patients were comparable to those in a similar control group who had received penicillin.

Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of individuals as a result of a local stimulating effect of the medication on the alimentary tract; however, the normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the use of erythromycin, there have been occasional reports of urticarial skin eruptions, and, on rare occasions, anaphylaxis.

**Administration and Dosage:** Ilosone is administered orally.

Ilosone Pulvules®, Ilosone Liquid 125, Ilosone, 125, for Oral Suspension, Ilosone Drops, Ilosone Chewable Tablets.

For infants and for children under twenty-five pounds of body weight, the usual dosage is 5 mg. per pound every six hours; for children twenty-five to fifty pounds, 125 mg. every six hours. (Tablets Ilosone Chewable should be chewed or crushed and swallowed with water.)

For adults and for children over fifty pounds, the usual dosage of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromycin therapy should be considered.

In the treatment of syphilis, the recommended total dosage 20 to 30 Gm. given in divided doses for a period of ten to fifteen days. Close follow-up of the patient is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examinations of spinal fluid are recommended as part of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days is recommended. In the treatment of gonorrhea, patients with a suspected lesion of syphilis should have a dark-field examination before receiving antibiotics, and monthly serologic tests should be made for a period of three months.

**How Supplied:** Pulvules Ilosone, Capsules, N.F., 125 and 250 mg. (equivalent to base), in bottles of 24 and 100.

Ilosone Liquid 125, Oral Suspension, U.S.P., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60-cc. and pint-size packages.

Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60 and 150-cc.-size packages.

Ilosone Drops, 5 mg. (equivalent to base) per drop, in 10-cc.-size packages, with dropper calibrated at 25 and 50 mg.

Tablets Ilosone Chewable, N.F., 125 mg. (equivalent to base), in bottles of 50.

**References:** 1. Griffith, R. S., and Black, H. R.: *Am. J. M. Sc.*, 247:69, 1966.  
2. Griffith, R. S., and Black, H. R.: *Antibiotics & Chemother.*, 12:398, 1966.  
3. Hirsch, H. A., Pyles, C. V., and Finland, M.: *Am. J. M. Sc.*, 239:198, 1960.

Additional information available to physicians upon request.  
Eli Lilly and Company, Indianapolis, Indiana 46206.



## Obituaries . . . .

### **Dr. Robert Lee Payne, Sr.,**

Norfolk, died May 7th, at the age of eighty-four. He received his medical degree from the University of Pennsylvania in 1905 and had practiced in Norfolk for fifty-seven years, having retired in 1963. Dr. Payne was one of the founders and an original member of the American Board of Surgery, a past president of the Southern Surgical Association, the Seaboard Medical Association and the Norfolk County Medical Society, and a member of the Board of Governors of the American College of Surgeons. Dr. Payne was an honorary member of the Medical Society of North Carolina and had been a member of The Medical Society of Virginia for fifty-nine years.

During World War II, Dr. Payne traveled extensively as a consultant for the U. S. Army, visiting medical centers in this country to give demonstrations and lectures in surgery. He was also chairman of the Norfolk Medical Advisory Board for the draft. Dr. Payne was former chief surgeon of the Norfolk General Hospital and also of DePaul Hospital. He was also former chief surgeon of the Norfolk Southern Railway.

Dr. Payne had many interests outside his profession—he was an active yachtsman, hunter, horseback rider, fly fisherman and golfer. He was also active in church work, serving as an Elder in the Presbyterian Church.

His wife, four sons and a daughter survive him. A son is Dr. Payne, Jr., also of Norfolk.

An Editorial in the Ledger-Star of Norfolk, stated "The career he devoted to healing, the progress he contributed to in the art of surgery itself, the warm esteem he earned for himself all add up to a remarkable life of service and make his death an especially profound loss, not just for Tidewater but for the country."

### **Dr. Albin Millard Saunders,**

Newport News, died May 5th after a long illness. He was eighty-two years of age and graduated from the former University College of Medicine, Richmond, in 1908. Dr. Saunders practiced in Norfolk for forty years until his retirement in 1955. He was a member of the Masonic Lodge, Scottish Rite Bodies, and Khedive Shrine Temple. Dr. Saunders had been a member of The Medical Society of Virginia since 1913.

A sister survives him.

### **Dr. James Warren Sayre,**

Hampton, died May 26th after a long illness. He was seventy-one years of age and received his degree from Johns Hopkins Medical School in 1924. Dr. Sayre retired in 1951 after practicing in Newport News since 1929. He was a member of the staffs of Elizabeth Buxton, Riverside, Dixie and Mary Immaculate Hospitals. Dr. Sayre was a member of the Kiwanis Club and had been a member of The Medical Society of Virginia for thirty-six years.

His wife and two daughters survive him.

### **Dr. Albert Vincent Crosby,**

Norfolk, died May 9th, following a heart attack while driving to his office. He was seventy-two years of age and a graduate of Hahnemann Medical College in 1917. Dr. Crosby was an assistant chief of the Emergency Medical Service of the Office of Civilian Defense, and in 1950 received the City's official thanks by being appointed by the City Council as honorary surgeon of the Fire Division. He was on the Health and Safety Committee of the Norfolk Council of Boy Scouts and had served on the Board



of the Family Welfare Association. Dr. Crosby was honored in 1966 by being named as Catholic Layman of the Year. He was a member of The Medical Society of Virginia.

A son and a daughter survive him.

**Dr. Earl Joseph Haden,**

Arvon, died April 28th at the age of sixty-five. He was a graduate of the Medical College of Virginia in 1927. Dr. Haden was a retired lieutenant colonel in the U. S. Army and served in the Pacific theatre during World War II. He was a Mason and

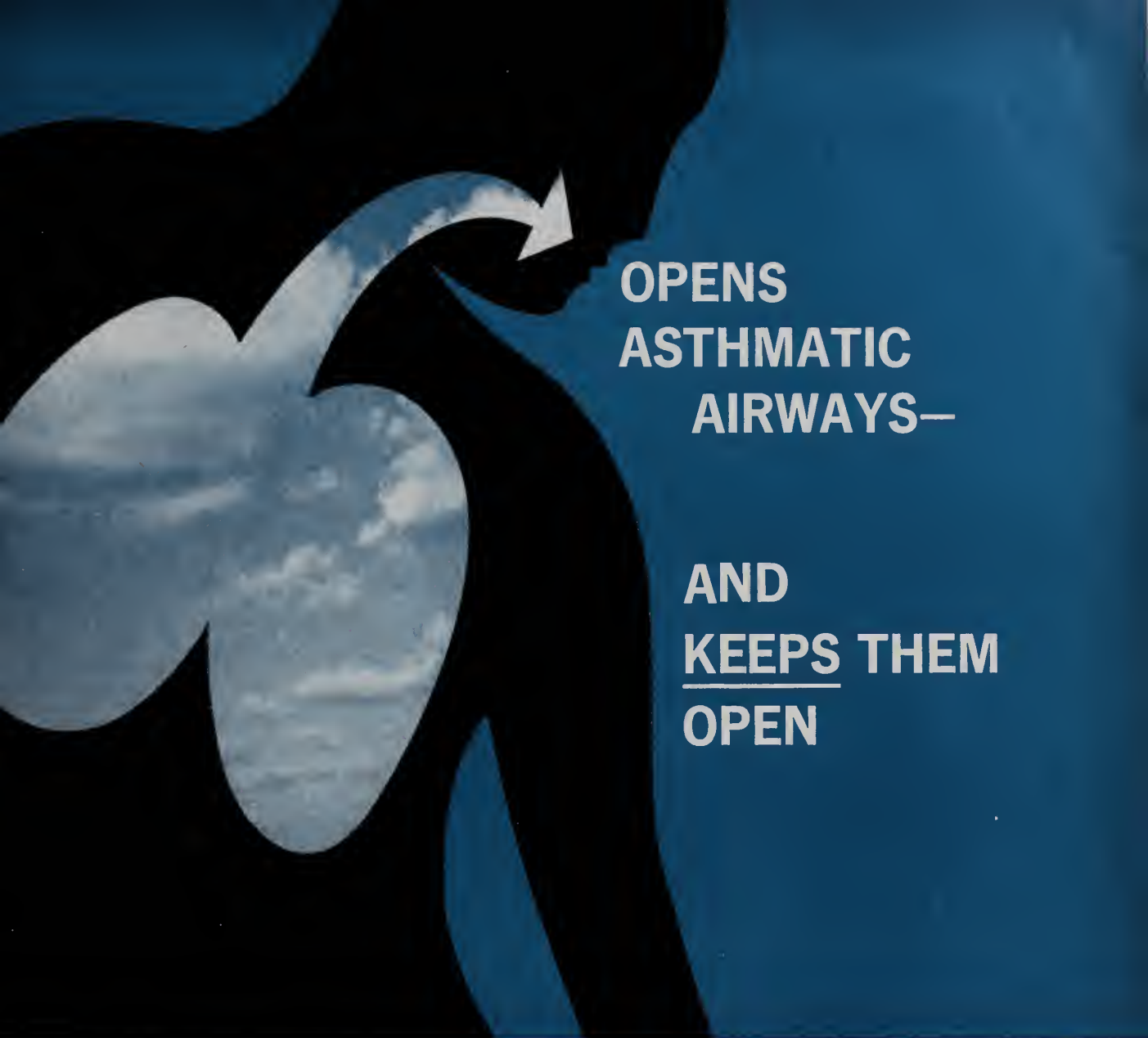
had been a member of The Medical Society of Virginia for thirty-six years.

His wife and two sons survive him.

**Dr. Andrew Martin Tiernan,**

Norfolk, died May 3rd. He was a graduate of the College of Physicians and Surgeon, Boston, in 1939. Dr. Tiernan was a member of the staff of the Clinch Valley Clinic Hospital, Richlands, and later physician for the Jewell Ridge Coal Company, before locating in Norfolk about ten years ago. He was a member of The Medical Society of Virginia having joined in 1947.





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Dosage: One Numa Dura-Tab every 8 to 12 hours helps keep the asthmatic patient symptom-free all day/all night.

Precautions: Use with caution in cardiovascular or hyperthyroid disease, severe hypertension, circulatory collapse, prostatic hypertrophy, or glaucoma.

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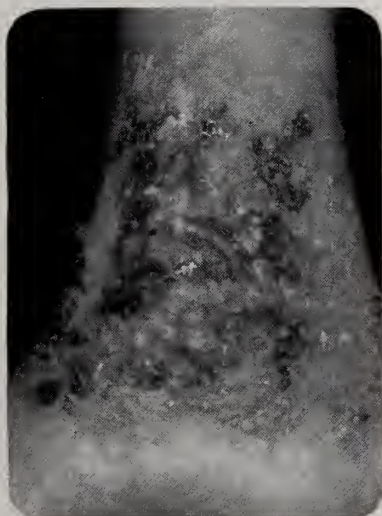
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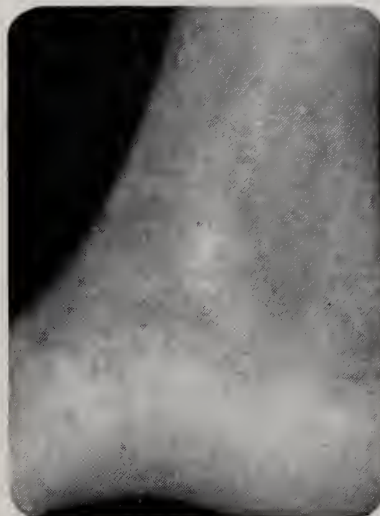
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*Administration and Dosage:* Apply sparingly to the affected area 3 or 4 times daily. Some cases of psoriasis may be more effectively treated if the 0.1% Cream or Ointment is applied under an occlusive dressing.

*Contraindications:* Tuberculosis of the skin, herpes simplex, chicken pox and vaccinia.

*Precautions and Side Effects:* Do not use in the eyes or in the ear (if drum is perforated). A few individuals react unfavorably under certain conditions. If side

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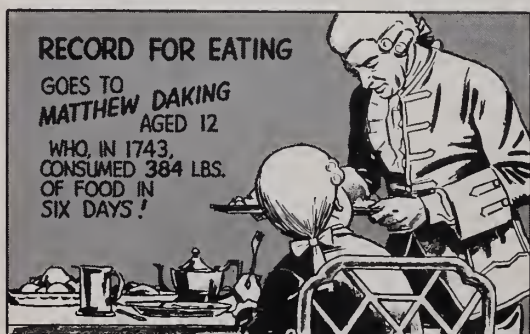
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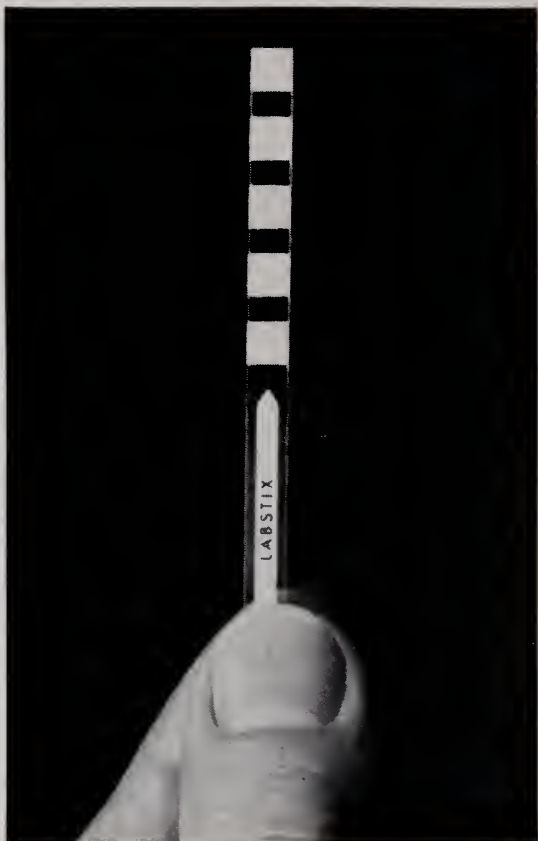
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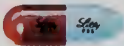
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**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of child-bearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver-function tests advisable during protracted therapy.

**Usual Daily Dosage:** Individualize for maximum beneficial effects. *Oral*—Adults: Mild and moderate anxiety and tension, 5 or 10 mg t.i.d. or q.i.d.; severe states, 20 or 25 mg t.i.d. or q.i.d. Geriatric patients: 5 mg b.i.d. to q.i.d. (See Precautions.)

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# VIRGINIA MEDICAL MONTHLY



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has an atropine-like action which should be considered when prescribing diphenhydramine hydrochloride. **ADVERSE REACTIONS:** Side effects are generally mild and may affect the nervous, gastrointestinal, and cardiovascular systems. Drowsiness, dizziness, dryness of the mouth, nausea, nervousness, palpitation, blurring of vision, vertigo, headache, muscular aching, thickening of bronchial secretions, restlessness, and insomnia have been reported. Allergic reactions may occur.

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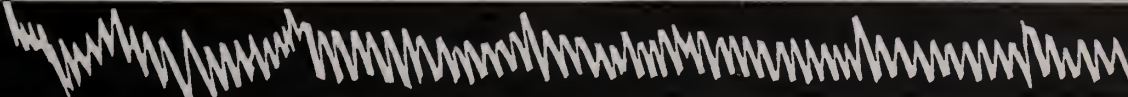
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in vivo measurement of LUTREXIN (Lututrin) on contracting uterine muscle of the guinea pig.



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(Founded by Landon B. Edwards, M.D., April, 1874)

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\*Based on Statistical Report, U.S. Dept. Commerce, ed. 86, and Fisher, G. F., and Vavra, H. M.: Pub. Health Rep. 80:961 (Nov.) 1965.

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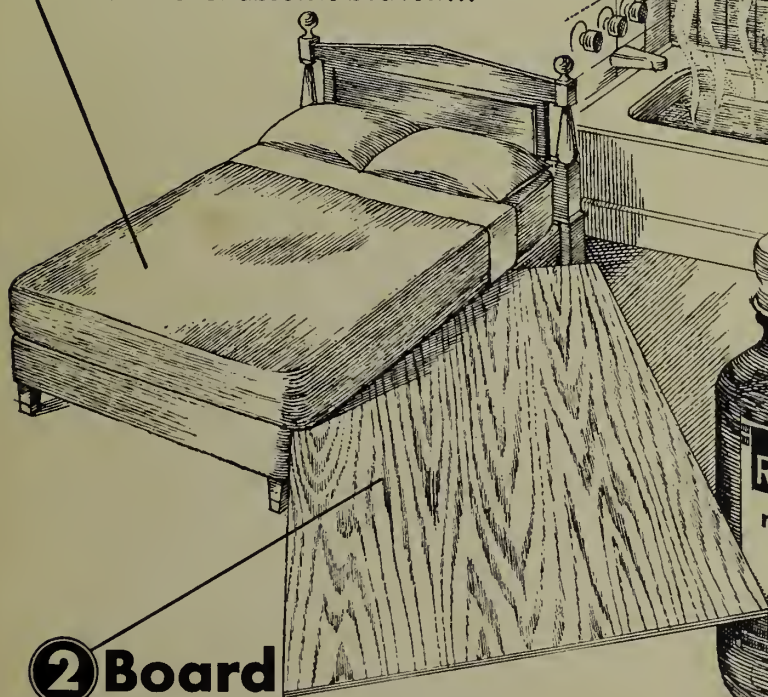
**Ames**

# LOW-BACK PAIN

## A CONSERVATIVE, FOUR-POINT PROGRAM

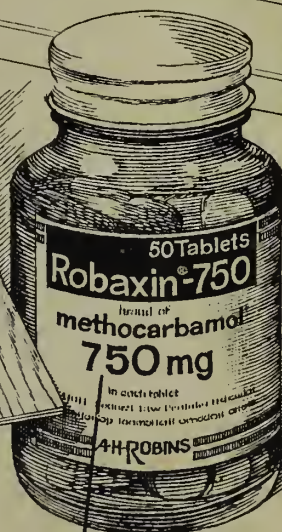
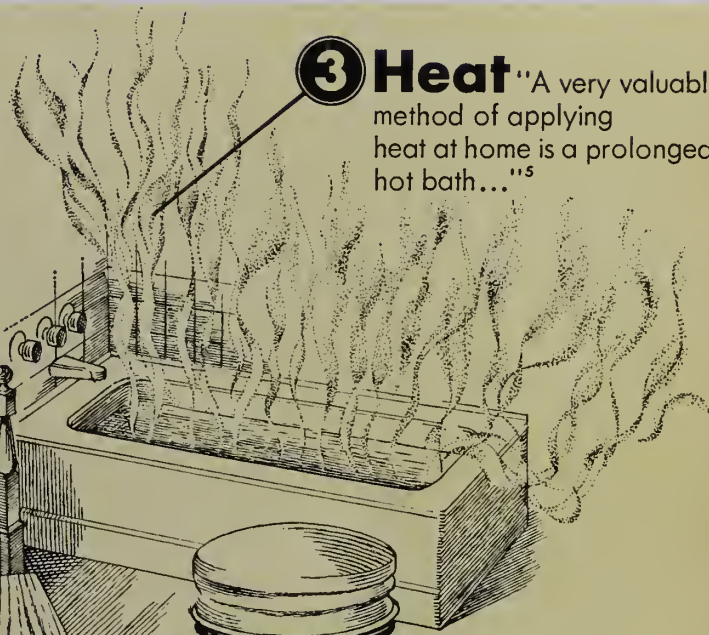
The low back pain that is most frequently seen in general practice is mechanical in nature, i.e., postural back pain, joint dysfunction and acute back strain.<sup>1,2</sup> For this type of discomfort, a conservative regimen is usually sufficient to relieve aches and pains, and to help keep the patient functioning. Components of this basic program include:

**1 Bed** "If the patient is in the pain-spasm-cycle...there is no alternative or substitute for absolute bed rest..."<sup>3</sup>



**2 Board** "Boards should be ordered under the mattress...these boards act by immobilizing the spine..."<sup>4</sup>

**3 Heat** "A very valuable method of applying heat at home is a prolonged hot bath..."<sup>5</sup>



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Indicated for relief of skeletal muscle spasm. Contraindicated in hypersensitive patients. Side Effects (lightheadedness, dizziness, drowsiness, nausea) may occur rarely, but usually disappear on reduced dosage. Hypersensitivity reactions develop infrequently. See product literature for further details. Also available: Robaxin® Tablets (methocarbamol, 500 mg.) Robaxin Injectable (methocarbamol, 1 Gm./10 cc.)  
References: (1). Godfrey, C.M.: Applied Therap. 8:950, 1966. (2). Gottscholk, L.A.: GP 33:91, 1966. (3). Rowe, M.L.: J. Occup. Med. 2:219, 1960. (4). Cozen, L.: South Dakota J. Med. 18:26, 1965. (5). Soto-Holl, R.: Med. Sc. 14:23, 1963. (6). Weiss, M. and Weiss, S.: J. Am. Osteopath. A. 62:142, 1962. (7). Feuer, S.G., et al.: New York J. Med. 62:1985, 1962.

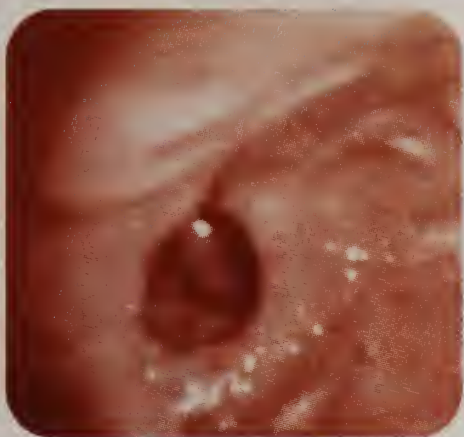
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**Pro-Banthine®** (propantheline bromide)  
gives positive, selective benefits in  
gastrointestinal disorders.



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**Dosage:** The maximal tolerated dosage is usually the most effective. For most *adult* patients this will be four to six 15-mg. tablets daily in divided doses. In severe conditions as many as two tablets four to six times daily may be required. Pro-Banthine (brand of propantheline bromide) is supplied as tablets of 15 mg., as prolonged-acting tablets of 30 mg. and, for parenteral use, as serum-type ampuls of 30 mg. The parenteral dose should be adjusted to the patient's requirement and may be up to 30 mg. or more every six hours, intramuscularly or intravenously.

**Contraindications:** In glaucoma or severe cardiac disease.

**Precautions:** Since varying degrees of urinary hesitancy may occur in the elderly male with prostatic hypertrophy, this should be watched for in such patients until they have gained some experience with the drug.

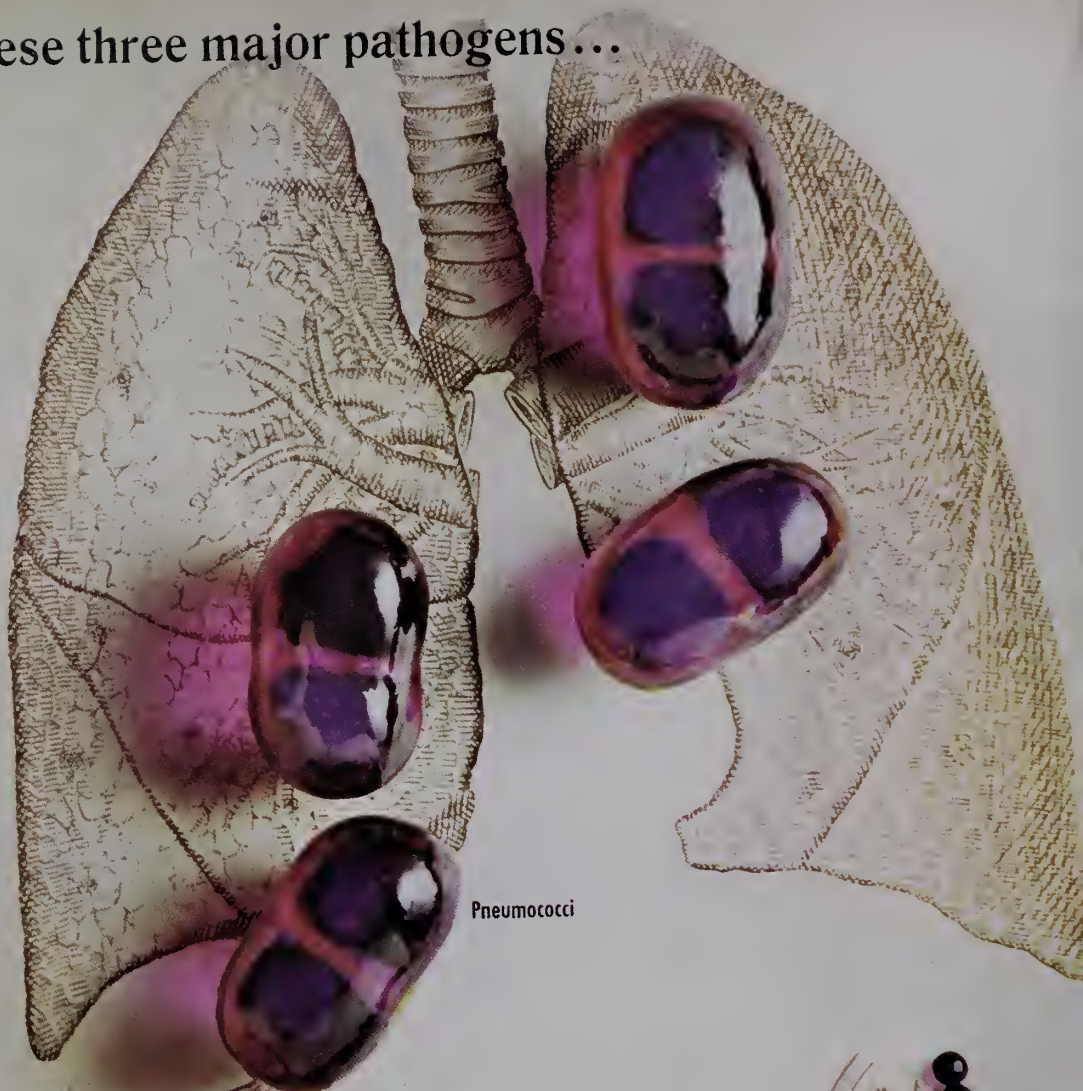
Although never reported, theoretically a curare-like action may occur with possible loss of voluntary muscle control. Such patients should receive prompt and continuing artificial respiration until the drug effect has been exhausted.

**Side Effects** The more common side effects, in order of incidence, are xerostomia, mydriasis, hesitancy of urination and gastric fullness.

1. Barowsky, H.; Greene, L.; Bennett, R., and Buganza, G.: The Effect of Anticholinergic Drugs on Gastric Motility and Pyloric Function, Scientific Exhibit, Annual Convention of the American Medical Association, Chicago, Illinois, June 26-30, 1966.



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Staphylococci



Beta-Hemolytic  
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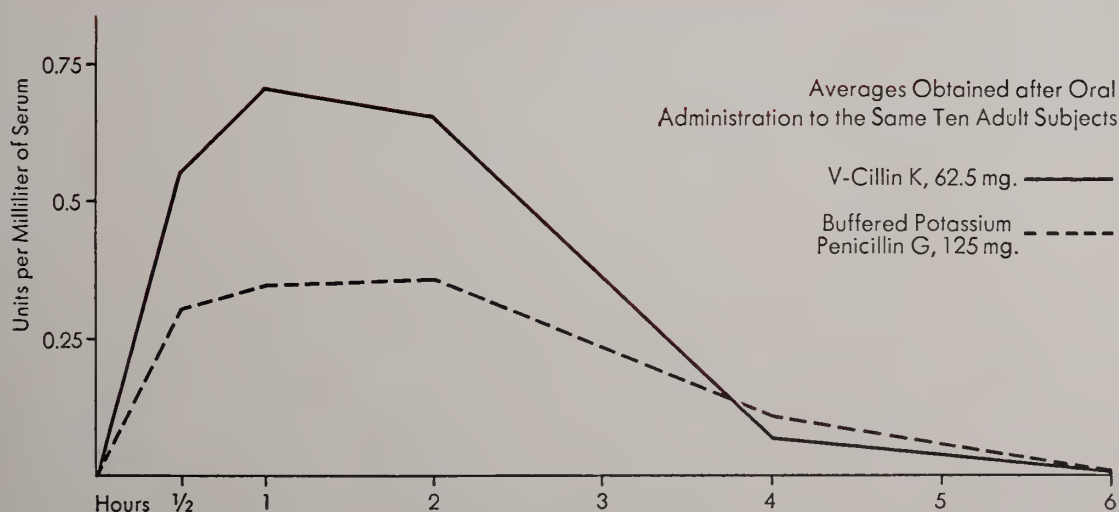
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Antibiotic	Staph. Aureus (Penicillin-Sensitive) MIC (mcg./ml.)		Streptococcus, Group A MIC (mcg./ml.)		Diplococcus Pneumoniae MIC (mcg./ml.)	
	Median	Range	Median	Range	Median	Range
Penicillin V	0.02	0.02-0.04	0.02	0.003-0.4	0.01	0.005-0.2
Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxacillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med., 269:1019, 1963.

**with high blood levels, even in the presence of food**



Adapted from Griffith, R. S., and Black, H. R.: Current Ther. Res., 6:253, 1964.

**V-Cillin K<sup>®</sup>**  700867  
Potassium Phenoxyethyl Penicillin

(See next page for prescribing information.)

# New 500 mg. tablets...a more convenient way to give high doses



**Description:** V-Cillin K is the potassium salt of V-Cillin® (phenoxy-methyl penicillin, Lilly). This chemically improved form combines acid stability with immediate solubility and rapid absorption. Higher serum levels are obtained more rapidly with this penicillin than with equal oral doses of penicillin G. The higher serum levels and acid stability of V-Cillin K make it a more dependable penicillin for oral use.

V-Cillin K, Pediatric, is an oral solution of clinically proved V-Cillin K in teaspoon dosage form. When mixed as directed, each 5 cc. (approximately one teaspoonful) will contain 125 mg. (200,000 units) phenoxy-methyl penicillin as the potassium salt.

**Indications:** V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

**Contraindication:** V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

**Warnings:** In rare instances, the use of penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type of reaction appears more frequently in patients with a history of sensitivity reactions to penicillin and in those with bronchial asthma or other allergies. Resuscitative drugs should be readily available for emergency administration. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for relief of immediate allergic manifestations and antihistamines and corticosteroids for delayed effects.

**Precautions:** V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy.

In prolonged therapy with penicillin, and particularly with high parenteral dosage schedules, frequent evaluation of the renal and hematopoietic systems is recommended.

In suspected staphylococcus infections, proper laboratory studies (including sensitivity tests) should be performed.

The use of penicillin may be associated with the overgrowth of penicillin-insensitive organisms. In such cases, its administration should be discontinued, and appropriate measures should be taken.

**Adverse Reactions:** Although serious allergic reactions are much less common with administration of oral penicillin than with intramuscular forms, manifestations of penicillin allergy may occur.

Penicillin is a substance of low toxicity, but it does possess a significant index of sensitization. The following hypersensitivity reactions associated with the use of penicillin have been reported: skin rashes ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; and reactions resembling serum sickness, including chills, fever, edema, arthralgia, and prostration. Severe and often fatal anaphylaxis has occurred (see Warnings). Hemolytic anemia, leukopenia, thrombocytopenia, and nephropathy are rarely observed side-effects and are usually associated with high parenteral dosage.

**Administration and Dosage:** For Tablets V-Cillin K and for V-Cillin K, Pediatric, the usual dosage ranges from 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants the daily dosage may be 50 mg. per Kg. of body weight divided into three doses.

Beta-hemolytic streptococcus infections without associated bacteremia may be treated with 200,000 to 400,000 units three times a day. Therapy should be continued for a minimum of ten days to prevent development of rheumatic fever and/or other serious complications. Dosage for routine streptococcus prophylaxis in patients with a history of rheumatic fever or congenital heart disease may be 200,000 units once or twice daily. When such patients undergo tonsillectomy, tooth extraction, or other minor surgery, the prophylactic dose should be 500,000 units every six hours given two days prior to surgery and for two days postoperatively. If oral medication is not feasible on the day of surgery, parenteral therapy should be considered. Mild to moderately severe pneumococcus pneumonia has been treated effectively with 250 mg. every six hours.

In staphylococcus infections, 400,000 units or more should be given every six to eight hours in conjunction with indicated surgical procedures.

For gonorrhea in males, 500 mg. (800,000 units) every four hours for three doses may be employed; in females, 500 mg. every four hours for six doses are recommended. Refractory infections generally respond to a second treatment three to four days following completion of the first. Treatment of gonorrhea with severe complications should be individualized, with prolonged and intensive treatment. Patients with a suspected lesion of syphilis should have a dark-field examination before receiving penicillin and monthly serologic tests for a minimum of three months.

**How Supplied:** Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units), in bottles of 50 and 100; and 250 mg. (400,000 units) and 500 mg. (800,000 units), in bottles of 24 and 100.

V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,000 units) per 5 cc. of solution, in 40, 80, and 150-cc.-size packages.

[032067]

Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.

*Lilly*

7008E

# DIURESIS



## MERCUHYDRIN<sup>®</sup> (meralluride injection)



Twenty years ago the publication of "A System for the Routine Treatment of the Failing Heart"<sup>1</sup> established a schedule of diuretic therapy as a primary factor in the treatment of acute congestive failure. With emphasis upon daily injections of Mercuhydrin (meralluride injection) until dry weight was obtained, Gold, et al. achieved a 40% increase in improvement, in 1/3 the time, over other methods then current. Today, most medical texts continue to recommend parenteral mercurials in acute congestive failure when prompt diuresis is indicated.

Recently Modell<sup>2</sup> has stated: "The mercurial diuretics are the injectable diuretics of choice since they are the most potent as well as the most dependable. Their toxicity is not an important consideration either by comparison with other potent diuretics or in relation to the seriousness of the conditions in which they provide such excellent relief."

### IN BRIEF

Mercuhydrin is indicated in edema of cardiac or hepatic origin and in the nephrotic syndrome; it is contraindicated in acute nephritis and in anuric or oliguric states. *The usual adult dose is one to two cc. daily or every other day until "dry weight" is obtained.* Sensitivity is rare but small initial doses are advised to minimize potential reactions; vertigo, fever, and rash have occurred. Overdosage may produce electrolyte depletion, muscle cramps, and G.I. reactions. Supplied: 1 cc. and 2 cc. ampuls in boxes of 12, 25 and 100; 10 cc. rubber capped, multiple-dose vials (intramuscular or subcutaneous use only) in boxes of 6 and 100.

1. Gold, Harry, et al.: *A System for the Routine Treatment of the Failing Heart*, The American Journal of Medicine, Vol. III, No. 6:665-692 (Dec.) 1956.

2. Modell, Walter: *Drugs of Choice* 1966-1967, p. 97, 1966.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201





*"You're up ten pounds since your last physical. We're going to have to do something about that."*

# Get them while they're easily reversible.

Obesity doesn't happen suddenly. This insidious process has its beginning—and the chances of reversing it are better—during the *first 10 to 15 pounds of weight gain*.

When a new dietary pattern must be established, consider the adjunctive use of **BAMADEx SEQUELS**. Combining the proven *anorexigenic* action of d-amphetamine with the *tranquilizing* effect of meprobamate, **BAMADEx SEQUELS** controls appetite throughout the day, usually with a single capsule daily.

**Contraindications:** Dextro-amphetamine sulfate: In hyperexcitability and in agitated prepsychotic states. Previous allergic or idiosyncratic reactions to meprobamate.

**Precautions:** Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Excessive use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients

with suicidal tendencies.

**Side Effects:** Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness. Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

## Bamadex<sup>®</sup> Sequels<sup>®</sup>

Dextro-amphetamine sulfate (15 mg.)  
with Meprobamate (300 mg.)

Sustained Release Capsules



LEDERLE LABORATORIES

A Division of American Cyanamid Company

Pearl River, New York


466-7

# Sick, and worried sick



Professionally posed





Anxiety and tension stemming from organic illness may undermine your patient's cooperation and possibly retard success of primary therapy.

If his emotional symptoms persist in the face of your counsel and reassurance, you may want to consider adjunctive use of SERAX (oxazepam). It is indicated in anxiety, tension, agitation, irritability, and anxiety associated with depression. May be used in a broad range of patients, usually with considerable dosage flexibility.

When prescribing, carefully observe dosage recommendations and appropriate precautions, especially as pertaining to the elderly and when complications could ensue from a fall in blood pressure. (See Wyeth literature or PDR as well as "IN BRIEF" below.)

**IN BRIEF.**

**Contraindications:** History of previous hypersensitivity to oxazepam. Oxazepam is not indicated in psychoses.

**Precautions:** Hypotensive reactions are rare, but use with caution where complications could ensue from a fall in blood pressure, especially in the elderly. Withdrawal symptoms upon discontinuation have been noted in some patients exhibiting drug dependence through chronic overdose. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose; excessive, prolonged use in susceptible patients (alcoholics, ex-addicts, etc.) may result in dependence or habituation. Reduce dosage gradually after prolonged excessive dosage to avoid possible epileptiform seizures.

Withdrawal symptoms following abrupt discontinuance are similar to those seen with barbiturates. Caution patients against driving or operating machinery until absence of drowsiness or dizziness is ascertained. Warn patients of possible reduction in alcohol tolerance. Safety for use in pregnancy has not been established.

Not indicated in children under 6 years; absolute dosage for 6- to 12-year-olds not established.

**Side Effects:** Therapy-interrupting side effects are rare. Transient mild drowsiness is common initially; if persistent, reduce dosage. Dizziness, vertigo and headache have also occurred infrequently; syncope, rarely. Mild paradoxical reactions (excitement, stimulation of affect) are reported in psychiatric patients. Minor diffuse rashes (morbilliform, urticarial and maculopapular) are rare. Nausea, lethargy, edema, slurred speech, tremor and altered libido are rare and generally controllable by dosage reduction. Although rare, leucopenia and hepatic dysfunction including jaundice have been reported during therapy. Periodic blood counts and liver function tests are advised. Ataxia, reported rarely, does not appear related to dose or age. These side reactions, noted with related compounds, are not yet reported: paradoxical excitation with severe rage reactions, hallucinations, menstrual irregularities, change in EEG pattern, blood dyscrasias (including agranulocytosis), blurred vision, diplopia, incontinence, stupor, disorientation, fever and euphoria.

**Availability:** Capsules of 10, 15 and 30 mg. oxazepam.

To help you relieve anxiety and tension

**Serax<sup>®</sup>**  
**(oxazepam)**

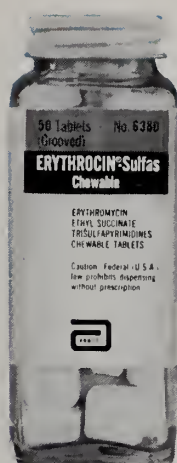


Wyeth Laboratories  
Philadelphia, Pa.



\* Perhaps there have been times when you wanted to prescribe erythromycin and triple sulfas for little patients. Now you can—with a choice of two new fine-tasting pediatric forms.

# New—Two Pediatric Forms of Erythromycin and Triple Sulfas



## ERYTHROCIN®-SULFAS Chewable

(Erythromycin ethyl succinate-trisulfapyrimidines chewable tablet)

In clinical trials<sup>1,2</sup>, this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

Diagnoses (multiple in some cases) represented a cross section of bacterial infections commonly seen in pediatric office practice.

Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

**A clinical cure rate of 94.5%**



## ERYTHROCIN®-SULFAS Granules

(Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated<sup>1,2</sup>—all children, ages four months to 15 years.

The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

701358

**A clinical cure rate of 97.7%**

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.



Brief  
Summary  
on next  
page



# ERYTHROGIN<sup>®</sup>-SULFAS

## Brief Summary

**Contraindications:** Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

**Warnings:** As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

**Precautions, Side Effects:** Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steroids, etc.) should be administered and the drug withdrawn.

**Adverse Reactions:** Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

**Supplied:** The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.

701358



# Tandearil<sup>®</sup>

## oxyphenbutazone

Tandearil in Painful Shoulder

**Therapeutic Effects:** Stiffness and pain may diminish within 2 days, and full mobility may be restored within a week. These effects are obtained with oxyphenbutazone alone or combined with physiotherapy or local hormonal injections. The drug is usually well tolerated and does not affect pituitary-adrenal function or immune response.

**Contraindications:** Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently.

**Warning:** If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

**Precautions:** Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage. Make regular blood counts. Discontinue the drug and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

**Adverse Reactions:** The most common are nausea, edema and drug rash. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

**Dosage in Painful Shoulder:** 600 mg. daily in divided doses for 2 to 3 days; 300 mg. daily thereafter. Usual duration of therapy: 2 to 7 days.

**Availability:** Tablets of 100 mg. 6562-VI(B)R

For complete details, please refer to full prescribing information.



Geigy Pharmaceuticals  
Division of Geigy Chemical Corporation  
Ardsley, New York

Geigy

Tandearil<sup>®</sup>  
oxyphenbutazone

helps painful shoulders  
move again



3 out of 4 painful shoulder patients  
responded well

84.2% of 127 patients

81% of 48 patients

Please see ad-  
joining page for  
brief prescribing  
summary

TA-5094PC

Sperling, I. L.  
Applied Therap. 6:117,  
1964  
Rosenbaum, E. E., and  
Schwarz, G. R. North-  
west Med. 61:927, 1962





at the site of infection  
(where it counts)...



# Ilosone® provides more antibacterial activity than any other oral erythromycin

**Acid stable, better absorbed... Ilosone produces faster, higher, more prolonged blood levels, even in the presence of food<sup>1,3</sup>**

Because it is the most active form of oral erythromycin, Ilosone can help assure consistently greater antibacterial activity at the site of infection. Ilosone produces peak antibacterial blood levels two to four times those of other erythromycin preparations.<sup>1,2</sup> Not only are these levels attained earlier, but they are maintained for much longer periods. Even the presence of food does not seem to affect the activity of Ilosone.<sup>1,3</sup>

In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels

attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

**Now available:**

New! Ready-mixed Ilosone Liquid 125!  
(Contains erythromycin estolate equivalent to 125 mg. erythromycin base per 5-cc. teaspoonful.)

**Ilosone®**  
Erythromycin Estolate



*(See next page for prescribing information.)*

# Ilosone®/the most active oral form of erythromycin

**Description:** Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

**Indications:** Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have also been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone. **Contraindications:** Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with pre-existing liver disease or dysfunction.

**Adverse Reactions:** Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have developed in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly, usually within forty-eight hours, if the drug is readministered to sensitive patients. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to be definitely related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalofluorescence and thymol turbidity tests, elevated serum glutamyl oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has not been reported in other patients taking prolonged courses of the medication. Patients with chronic infection have been given 1 to 2 Gm. of the drug daily for periods of two to six months, and patients with rheumatic fever have taken prophylactic doses of 0.5 Gm. daily for two years without difficulty. In one group of 144 patients who received the drug daily for two years, no jaundice was noted. It was of interest that members of six of the patients' families, who were not taking the drug, had episodes of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels were determined in a group of fifty-four adults and children who took 250 mg. of Ilosone daily for an average of sixteen months in rheumatic fever prophylaxis. The results were compared with those of a similar group of forty-four patients who received penicillin. There were no cases of jaundice in either group. Elevations of SGPT and serum alkaline phosphatase levels during the course of treatment was observed in one patient treated with Ilosone and in two patients treated with penicillin. Seven other patients in the group receiving Ilosone and four others in the penicillin group showed elevations in one of the tests at some time during administration of the drugs.

Very satisfactory therapeutic results, without toxicity, were reported in 102 pediatric patients who received short-term (ten day) courses of Ilosone in the treatment of streptococcus infections. Results of liver function tests in these patients were comparable to those in a similar control group who had received penicillin.

Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of individuals as a result of a local stimulating effect of the medication on the alimentary tract; however, the normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the use of erythromycin, there have been occasional reports of urticarial skin eruptions, and, on rare occasions, anaphylaxis.

**Administration and Dosage:** Ilosone is administered orally.

Ilosone Pulvules®, Ilosone Liquid 125, Ilosone, 125, for Oral Suspension, Ilosone Drops, Ilosone Chewable Tablets.

For infants and for children under twenty-five pounds of body weight, the usual dosage is 5 mg. per pound every six hours; for children twenty-five to fifty pounds, 125 mg. every six hours (Tablets Ilosone Chewable should be chewed or crushed and swallowed with water.)

For adults and for children over fifty pounds, the usual dosage of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromycin therapy should be considered.

In the treatment of syphilis, the recommended total dosage is 20 to 30 Gm. given in divided doses for a period of ten to fifteen days. Close follow-up of the patient is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examinations of spinal fluid are recommended as part of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days is recommended. In the treatment of gonorrhea, patients with suspected lesion of syphilis should have a dark-field examination before receiving antibiotics, and monthly serologic tests should be made for a period of three months.

**How Supplied:** Pulvules Ilosone, Capsules, N.F., 125 and 250 mg. (equivalent to base), in bottles of 24 and 100.

Ilosone Liquid 125, Oral Suspension, U.S.P., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60-cc. and pint-size packages.

Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60 and 150-cc.-size packages.

Ilosone Drops, 5 mg. (equivalent to base) per drop, in 10-cc.-size packages, with dropper calibrated at 25 and 50 mg.

Tablets Ilosone Chewable, N.F., 125 mg. (equivalent to base) in bottles of 50.

**References:** 1. Griffith, R. S., and Black, H. R.: *Am. J. M. Sc.*, 247:69, 1966.  
2. Griffith, R. S., and Black, H. R.: *Antibiotics & Chemother.*, 12:398, 1966.  
3. Hirsch, H. A., Pyles, C. V., and Finland, M.: *Am. J. M. Sc.*, 239:198, 1960.

Additional information available to physicians upon request.  
Eli Lilly and Company, Indianapolis, Indiana 46206.





# DON'T JUST SIT AROUND ESCHEWING THE FAT.

Enlist in Project Weight Watch.

You'll be joining the ranks of professionals who believe overweight is one health hazard that can be reduced.

It's not an easy project; there's no simple solution. You already know how difficult it is to talk people out of overeating. Appetite suppressants alone won't establish new eating habits. And fad diets usually don't work.

But nourishing, everyday food in an easy-to-follow diet can change a man's life.

That's what prompted preparation of research-tested scientific diets which are offered to you free. They're a realistic balance of the 4 food groups—meat, bread and cereals, fruits and vegetables and dairy foods. They're diets you'd write yourself, if you had the time.

Send for them. The overweights can't wait.



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**DAIRY COUNCIL OF GREATER METROPOLITAN  
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Send me the Project Weight Watch kit of materials including diets.

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Mail Coupon to Nearest  
DAIRY COUNCIL





removes the mental blur



that clouds vision

# SOLFOTON®

Each tablet or capsule contains  
 PHENOBARBITAL . . . . . 16 mg.  
 (Warning: may be habit forming)  
 BENSULFOID® (Sec P D R) . . . . . 65 mg.  
 Precaution: same as 16 mg. of phenobarbital



## Constructive Therapy

A Solfoton tablet or capsule at 6 hour intervals maintains sedation at the threshold of calmness, sustaining a mental climate for purposeful living.

*Literature and clinical samples sent upon request.*

FEDERAL LAW PROHIBITS DISPENSING  
 WITHOUT PRESCRIPTION

AVAILABLE

- Solfoton** (yellow, uncoated tablets "P")  
100s, 500s, 5000s
- Solfoton Capsules** (yellow and brown)  
100s, 500s, 1000s
- Solfoton S/C** (sugar-coated beige tablets)  
100s, 500s, 4000s

WM. P. POYTHRESS & CO., INC.  
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*Manufacturers of ethical pharmaceuticals since 1856*



Old age



Convalescence



Adolescence



Infant diarrhea



Debilitating  
gastrointestinal  
conditions



Postoperatively

Whenever  
 the diet is faulty,  
 the appetite poor,  
 or the loss of food  
 is excessive

*through vomiting  
 or diarrhea—*

## Valentine's MEAT EXTRACT

stimulates the appetite,  
 increases the flow of  
 digestive juices,  
 provides: supplementary  
 amounts of vitamins, minerals  
 and soluble proteins,  
 extra-dietary vitamin B<sub>12</sub>,  
 protective quantities of  
 potassium, in a palatable and  
 readily assimilated form.

Supplied in bottles of 2 or 6 fluidounces.

DOSAGE is 1 teaspoonful two or three times  
 daily; two or three times this amount for  
 potassium therapy. Dilute with two or  
 more equal volumes of water.

**VALENTINE Company, Inc.**

RICHMOND 21, VIRGINIA

VIRGINIA MEDICAL MONTHLY



## After the picnic even Gramps Was a victim of intestinal cramps

Parepectolin for quick relief of acute diarrhea  
... soothes colicky pain with paregoric\*  
... consolidates fluid stools with pectin  
... adsorbs irritants with kaolin,  
and protects intestinal mucosa

In elderly patients it is particularly important to stop the diarrhea fast. Parepectolin helps you control diarrhea promptly and gain the patient's confidence until etiology has been determined.



# Parepectolin®

Each fluid ounce of creamy white suspension contains:

\*Paregoric (equivalent) . . . . . (1.0 dram) 3.7 ml.  
Contains opium (¼ grain) 15 mg. per fluid ounce.

*warning: may be habit forming*

Pectin . . . . . (2½ grains) 162 mg.  
Kaolin (specially purified) . . . . (85 grains) 5.5 Gm.  
(alcohol 0.69%)

Usual Adult Dose: One or two tablespoonfuls three times daily.



**WILLIAM H. RORER, INC.**  
Fort Washington, Pa.

VOLUME 94, AUGUST, 1967

# mudrane®

for

- EMPHYSEMA
- ASTHMA
- CHRONIC BRONCHITIS
- BRONCHIECTASIS

*The  
fast-disintegrating  
uncoated tablet  
gives relief in  
15 minutes*

*Each tablet contains:*

Potassium Iodide . . . . . 195 mg.  
Aminophylline . . . . . 130 mg.  
Phenobarbital, Caution: May be habit forming . . . 21 mg.  
Ephedrine HCl . . . . . 16 mg.

FEDERAL LAW PROHIBITS  
DISPENSING WITHOUT PRESCRIPTION

Precautions: Usual for aminophylline-ephedrine-phenobarbital. Iodides may cause nausea, long use may cause goiter. Discontinue if symptoms of iodism develop.

Iodide contraindications: tuberculosis, pregnancy.

### DOSAGE

One tablet, with full glass of  
water, 3 or 4 times daily.

*Dispensed in bottles of 100 and 1000 tablets.*

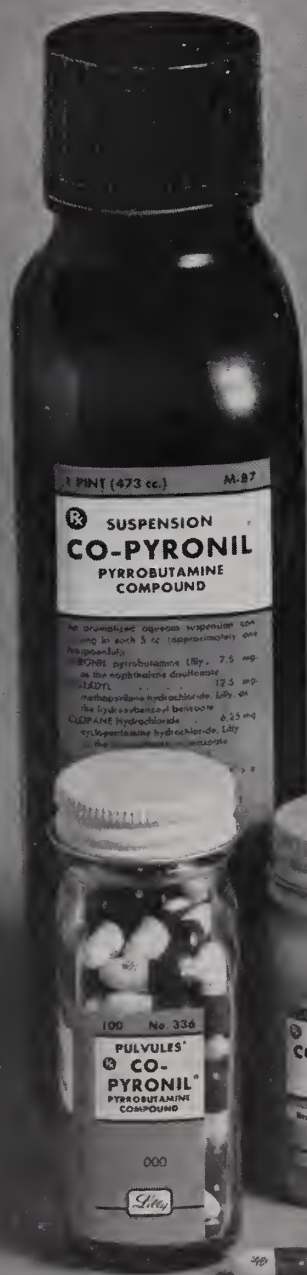
MUDRANE GG—Formula, dosage and package identical to Mudrane—*except*—100 mg. glyceryl guaiacolate replaces the potassium iodide. The value of Mudrane cannot be enjoyed by a small group in which K.I. is contraindicated. Mudrane GG is prepared for this group.

MUDRANE GG ELIXIR—Four 5 cc teaspoonfuls is equivalent to one Mudrane GG tablet. Dosage adjusted to age and weight of child. Mudrane GG Elixir is for pediatric patients and those who think they cannot swallow tablets. Dispensed in pint and half gallon bottles.

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*Manufacturers of ethical pharmaceuticals since 1856*





for  
quick relief  
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### *Guest Editorial . . . .*

#### Unnecessary and Prolonged Hospitalization

IN 1960 I editorialized on the subject of exhaustive, exhausting and all-too-frequently unthinking and unnecessary diagnostic investigation of patients. I called it "I.B.M. Medicine". I'm sorry to say that in the intervening years the situation has not improved and, furthermore, its effect has been made even more serious by the current shortage of hospital beds.

The shortage of hospital beds is due in no small part to the unnecessary admission and the unnecessarily prolonged stay of many patients. All too frequently patients are admitted as a matter of convenience for the physician. By the time that a large battery of "tests" has been completed, two weeks have elapsed, the bill for "room and board" alone amounts to three or four hundred dollars, more or less, and the patient's vigor has been sapped by prolonged confinement and inactivity.

Sometimes it is not the physician's convenience that leads to hospitalization but rather the convenience or cupidity of the patient. Their convenience is served by the passivity of hospitalization. They are made comfortable and waited on, hand and foot. Their cupidity relates to the fact that their "insurance" will pay hospital but not office bills. Although some policies exclude "diagnostic study", some physicians may be pressured by patients to relate the hospitalization to "treatment" in their reports.

Prolongation of hospital stay may result from physician-inattention or patient-convenience or both. A physician alert to the welfare of the patient and the shortage of hospital beds will not be criticized by his patient when he explains that leaving the hospital is an important step in restoring the patient to normal and is necessary to make beds available for other patients that urgently need them.

The great clinics in this country, in Rochester, Cleveland, Boston and many other places, have shown and prove daily the practicability, the

safety and the desirability of conducting diagnostic investigations on an out-patient basis.

The family automobile and the taxi for in-town patients, hotels, motels and cafeterias for out-of-town patients afford satisfactory convenience and worthwhile economy for patient and family and will make available many greatly needed hospital beds. If the out-patient diagnostic investigation points to the need of an operation, most patients will be able to stand operation far better than if they had suffered the loss of vigor entailed by days, sometimes weeks, of hospitalization.

The conscientious physician, each time he sees a hospital patient, must ask himself two questions: (1) Is this hospitalization necessary? (2) Can this patient go home TODAY?

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# A Neurological Study of Reading Disability

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*In all but one of this series of children with dyslexia there were findings suggesting the presence of unilateral or bilateral hemisphere disease.*

OF THE THIRTY-SIX MILLION elementary school children in the United States, an estimated 15% are seriously retarded in reading capability. This problem has long occupied the interest of physician and educator, and both have contributed to the extensive and frequently confusing literature. Speculations regarding etiology have been vague and attempts to correlate the disorder with abnormal neurological findings inconsistent. In many such children neurologic examination often fails to suggest nervous system dysfunction. In some the history reveals that a similar disorder existed in other members of the family. In others disorders of visuo-spatial orientation, delayed

or imperfect cerebral dominance, or other aspects of retarded maturation are adduced. However, few have been seriously impressed with these "soft" neurologic findings in the plastic and developing nervous system. The "purity" of the syndrome has occasionally been disturbed by the finding of an isolated Babinski response, reflex preponderance, or abnormal movement. In the attempt to find a constant pattern of neurological abnormalities in the background of the dyslexic problem, these traditional signs of brain damage are considered, surprisingly, unimportant.

The purpose of this paper is to present the findings in a group of children referred for neurological evaluation. Most referrals originated with school authorities. In a few, satellite disturbances in other language functions existed, but failure to acquire, or imperfect progress in, the ability to read was a feature common to all.

The present study comprises seventeen consecutively referred children. Certain identifying characteristics are listed in Table 1. The ages ranged from six to twelve years. All were enrolled in school and the younger

TABLE 1

		Age	Sex	Birth Order	Pre- or Perinatal Compli.	Handedness	Seizures	EEG
1.	K. A.....	10	F	3/3	+	R	+	+
2.	B. S.....	9	M	3/3	0	Mixed	0	+
3.	B. St.....	6	M	2/3	+	Mixed	0	+
4.	J. P.....	8	M	2/2	+	Mixed	0	0
5.	R. S.....	6	F	2/3	+	R	+	0
6.	R. W.....	12	M	2/3	0	L	0	+
7.	L. M.....	8	M	1/1	+	R	0	+
8.	S. C.....	8	F	6/6	+	R	0	
9.	S. J.....	6	M	1/1	+	R	0	
10.	J. A.....	9	M	4/4	+	Mixed	0	+
11.	H. J.....	8	F	5/5	0	R	0	+
12.	R. H.....	11	M	4/4	0	L	0	0
13.	S. F.....	8	F	3/3	+	L	0	+
14.	R. M.....	11	M	1/3	0	Mixed	+	+
15.	S. D.....	7	M	2/3	0	R	+	0
16.	S. C.....	7	F	1/2	0	Mixed	0	+
17.	J. F.....	11	M	5/6	0	Mixed	+	+



members had received tuition for a period sufficient for their disability to come to light. As in previous surveys, males predominated. In nine instances the patient under examination was the youngest of the sibship, ranging from the second to the sixth born. Complications during pregnancy, at the time of delivery, or in the immediate neonatal period occurred in well over half the population. In most instances these related to prematurity or respiratory distress at birth. All thrived thereafter. In one case the mother suffered rupture of liver and spleen as a result of falling from a horse at five months gestation. She was delivered two months later by cesarean section because of placenta praevia and a transverse lie. In another the mother, aged thirty-five, suffered toxemia in the last trimester of pregnancy.

In none of the children was there a family history of left-handedness, yet frank sinistrality or mixed hand preference was met with in ten of the seventeen cases. A seizure disorder was present in five of the children. Three of these were on anticonvulsant drugs with excellent clinical control. Each of the other two had suffered a single convulsion, one on the second day of life, the other during infancy in association with fever. Electroencephalograms were obtained on all but two of the children. Three-quarters of them were considered abnormal. In four cases the disturbance suggested the presence of a brain stem convulsive disorder. One showed a three cycles per second spike and wave disturbance. The remainder showed diffusely slow activity from in the occipital region. Psychological testing was performed in all but one case. All of these revealed functioning within the range of normal. One child achieved a score slightly in excess of his chronological age and two performed on a superior level. In all cases, however, there was a considerable degree of scatter on the various subtests. Many showed impairment of verbal concept formation, with improvement in more concrete exercise tasks. Rotations and distortions of body im-

age were apparent in a few of the test drawings. Most frequently met with, however, were word and letter reversals, substitutions, and omissions.

### The Neurological Examination

All of the patients were seen by a single examiner. In all but one instance the neurological examination presented features that have classically been regarded as *prima facie* evidence of functional derangement of the nervous system.

Hyperactivity, distractability, and poor attention span, which were a frequent complaint of both parents and teachers, were apparent during examination in seven of the children. Abnormal movements were evident in three cases, athetoid in two, and choreiform in one. In each of these three difficulty in tongue movements and hyperactive jaw jerks were encountered, and an additional six subjects had incoordinate tongue movements unassociated with abnormal movements of the limbs. Some difficulty in articulation ensued, ranging from a mild impediment to a dysarthria described as "frankly pseudobulbar". All nine, however, showed hyperactive tendon reflexes and bilateral Babinski responses. Seven other children exhibited a reflex preponderance and unilateral or bilateral plantar extensor response, and three of these showed evidence of unilateral hypoplasia of face and limbs.

### Discussion

Over the past half-century an impressive literature has accumulated, testifying to the interests of many disciplines in reading disorders of children since the problem was introduced by Hinshelwood (1895). This diversity of approach has been rewarded with theories and speculations of equal, and often bewildering, diversity. Ingram (1963) has suggested that at the source of this confusion lie the misconceptions that arise from the variable and inconstant definitions of dyslexia. A reasonably complete definition of the condition is offered by Eisenberg

(Critchley, 1964) who regards it as a situation in which a child is unable to learn to read despite normal intelligence, intact senses, proper instruction, and normal motivation. Definitions, however valuable they may be in describing a condition as it exists, seldom inform us of the processes that bring it about. Similarly, the impasse that results from insistence upon a single theory of causation is immediately apparent. Rabinovitch (1962) has suggested a classification based on the presumption of several etiologies. The first category reflects the activity of exogenous factors such as cultural or educational deprivation and psychiatric conflicts. The second presumes some malfunction at the cerebral level manifesting itself by the associated signs of frank brain damage. Appended to this category is the group of "primary reading retardation" who betray no deficit upon neurological examination but whose disability is one of symbol concept. Their problem is thought to reflect a "disturbed pattern of neurological organization". Whether this latter category reflects some influence at the genetic level or disturbance of directional preponderance has been disputed. Primary to the dispute has been the unwillingness of some to accept the possibility that any organic factor at the cerebral level is an important operative. This has found positive expression in the assertions of some educators (Schonell, 1948) that "cerebral" theories of word blindness or word deafness have obstructed remedial efforts. In their passion to educate, the spectre of brain damage, except in its most obvious expression, would appear to be too frustrating to tolerate. Happily, however, as more flexible and novel means of education are becoming available, the educator is once again becoming aware of the disproportionate handicap imposed upon the minimally brain damaged. He now emerges as a major source of referral of the child with an isolated disability whose basic intelligence appears average, if not at times superior.

The present paper is concerned with the findings in a group of patients referred for

neurological evaluation. All of them had their ultimate referral source in school authorities. In each instance the concern centered around failure to acquire, or poor progress in, the talent of reading. The only criteria of exclusion that were exercised were mental retardation and convulsive disorders of such severe degree as to constitute a formidable obstacle to any attempt at education. One characteristic common to all cases was the absence of a similar disability in another family member. Prenatal or perinatal complications, poorly developed hemispheric dominance, and EEG abnormalities were impressive, though not invariable, findings. Birth order was equally divided between the first and second halves of the sibship. In keeping with earlier surveys (Hallgren, 1950), males predominated in this study. In those few patients in whom a seizure disorder was manifest, it had either been an isolated experience or mild enough to respond promptly to conventional anti-convulsant therapy. In most cases progression through the various milestones was normal and uneventful. Mild retardation in motor control was met with in three cases. In an additional three a lag in speech function was noted. In the remainder the parents were not impressed with any particular slowness in attaining the usual skills or with any great disparity between the patient and his normal siblings.

Psychological test results were uniformly abnormal even in those children judged superior in intelligence. A wide variety of deviations were encountered with the major disability generally appearing in the execution of verbal tasks. The range of scatter in the various subtests was such as to suggest organic involvement. Another consistent characteristic was the remarkable freedom from emotional problems. In only one instance was this thought to interfere seriously with functioning. This was in a child of superior intelligence whose disability was thrown into pathetic contrast by the talents of an equally superior younger brother.

It was the neurological examination, how-



ever, that was consistently the most informative. The findings were all the more impressive for their uniformity. Only one child was completely sound on examination. All others showed reflex changes alone or in combination with altered tongue motility, hyperactive jaw jerk, incoordinate or frankly abnormal movements, indicating the presence of unilateral or bilateral hemisphere dysfunction. Such findings would appear to contrast sharply with the many previous studies in which neurological abnormalities were not in evidence. In his formidable study of a large Scandinavian population Hallgren (1950) pays only scant attention to the neurological findings. These were infrequent, inconsistent, and presumably incidental to the much more persuasive data suggesting the origin of dyslexia in a specific constitutional genetically determined defect. The force of these studies has been primarily responsible for the reluctance of some commentators (Critchley, 1964) to give serious consideration to the importance of associated "minor neurological signs". To this point Critchley (1964) has recently observed that these findings often "elude superficial examination coming to light only after more searching techniques". Rabinovitch (1954) has, in the "expanded" neurologic examination, determined the presence of a variety of abnormalities. These generally pertain to disorders of temporal or spatial direction, aspects of imperfect cerebral dominance, or disturbances of speech other than dyslexia. These are reminiscent of acquired parietal lobe disturbances in adults, though generally less precise and clinically less impressive.

Pretchtl's (1962) selected group of children with choreiform movements showed a high incidence of reading and other learning disorders that were felt to reflect an inability to concentrate and to achieve fine motor control. He felt that at the core of any group of hyperkinetic children referred for neurological examination because of poor school performance, a proportion could be identified as a uniform neurological syn-

drome. It is of particular note that 100% of his subjects showed abnormal movements of tongue and facial musculature, while 18% showed choreiform movements in the distal muscles of the extremities. In over 80% exaggerated deep tendon reflexes were elicited. Walton (1962) described a group of children with severe clumsiness of voluntary activity with no obvious defect of pyramidal, extrapyramidal, or cerebellar function. All were of normal intelligence, though one was retarded in reading and showed pseudoathetotic movements of the outstretched hands. Their failure of organization of skilled motor activity was thought to represent a developmental apraxia and agnosia. Impaired articulation was found in three without signs of weakness, spasticity, or incoordination of articulatory muscles and was thought to be further expression of apraxia. In our children expressive speech disturbances were a frequent notation and in two it was of a pseudobulbar quality. This finding was generally associated with spastic or incoordinate tongue movements, corresponding to the disturbances of mechanical speech found in Cohn's (1961) survey. It is reminiscent in quality of the features of cortical dysarthria found in Bay's (1964) adult patients. There was, however, no element of dysphasia except for occasional word or concept reversals. Whether this betrays a disorder of direction or a more extensive impairment of language function is uncertain.

Characteristically, dyslexia persists into adult life. Occasionally, by dint of great effort or through the ministrations of a friendly tutor, a modicum of literacy may be achieved. Spelling, however, generally remains erratic. The diary of Hans Christian Andersen (Critchley, 1964), a suspected dyslexic, reveals many such errors. It does, however, attest to the degree of expression such a person may attain. Hermann (1959) relates the autobiographical account of several dyslexics who despite their disability achieved modest social and



professional stations. It is unlikely, however, that the majority of dyslexics are so fortunate. As Critchley (1964) has pointed out, the size of the problem is difficult to estimate, and the population from which retarded or defective readers emerge, heterogeneous. It would be helpful to further understanding of the problem if more were known of its evolution. Few accounts of long term follow-up are available. In Cohn's (1961) series of children, 29 of his original 46 were re-examined after a two year interval. While there was some improvement in the patient group, this did not parallel the maturation of the controls. The most notable changes in the examination were improvement in right-left orientation, greater accuracy in resolving double simultaneous stimulation, and improved temporal orientation. Asymmetrical deep tendon reflexes were approximately the same in both groups, but persistent Babinski responses and difficulties in coordination and mechanical speech continued to be prominent findings. Correspondingly, reading and writing skills failed to show much improvement relative to the progress of controls. Silver and Hagin (1964) reported follow-up testing in a series of 24 patients referred to them ten to thirteen years previously for reading disability. In the interval, improvement in such aspects as right-left orientation was noted, though problems remained in dealing with figure and background.

In a highly analytic commentary, Bryant (1964) traces the course of treatment of a dyslexic from age twelve to the time just prior to entrance into college. He had undergone an extensive course of psychoanalysis, combined with remedial reading and spelling exercises, with gratifying results. Of particular interest, however, were the child's superior intelligence, hyperactive behavior, clumsiness, incoordinate tongue movements, and asymmetrical deep tendon reflexes. The EEG showed slow wave activity from the left parietal region.

Critchley (1964) has noted that the inci-

dental minor neurologic signs are more likely to be found in the younger age groups, "being rarer in dyslexics who have attained adolescence". This, however, leaves begging the point that, past infancy, such signs are distinctly abnormal, particularly when they occur against the background of deranged function. In this regard, except for Cohn's (1961) limited follow up, little information exists regarding changes in the "classical" neurological examination with the passage of time. That this is of significance is the inference of Silver and Hagin's (1964) findings that those with abnormal neurological findings succeeded less well in later life in mastering their handicap, as compared with those in whom these findings were absent. The prognosis and, perhaps, subsequent educational efforts would appear to differ, making early recognition of cause as vital as proper appreciation of defect.

The premise that an isolated talent, such as reading ability, may suffer as a result of damage to the nervous system is not a new one. Nor is it advocated as an exclusive mechanism since it fails to account for the dyslexias that are constitutionally determined. Reference has been made to the resistance with which such proposals have been met. In this regard it is interesting to note the atmosphere of dissatisfaction that surrounds the entire concept of minimal cerebral dysfunction. That the term is vague and imprecise cannot be denied. Yet the concept must be designated and most physicians fail to appreciate that the idea had its origin in an educational-psychological context, not a medical one (MacKeith, 1963).

Further disappointment is encountered in the failure to demonstrate underlying structural damage to the nervous system. The reasons for this are several. For obvious reasons adequate autopsy material does not exist. This had led to liberal speculations derived from the pathology of acquired disorders of adults. A tempting example is Geschwind's (1962) discussion of Dejerine's

case of an adult with acquired alexia. The hazards of such parallels are pointed out by Critchley (1964) who notes that failure to acquire function is a matter very different from function lost. The criticisms of those who would demand such correlations have been masterfully answered by Walshe (1956). In a similar vein, Riese (1950) has pointed out that a lesion is not a disease. Postmortem examination may occasionally reveal significant structural change that showed no symptomatic expression during life. Disease is not present until a symptom appears expressing the disturbed functional relationship of the parts and a shift of the integrative activity of the nervous system toward a different level, and this may frequently fail to show a structural corollary.

A categorical impulse is evident in those who would insist upon a single causative factor or uniform neurological syndrome at the heart of the dyslexic problem. The influences that may derange nervous function are many. The responses to these influences are, however, relatively few and stereotyped. It is a principle axiomatic to modern neurology that the findings elicited by clinical history and examination do not pertain so much to altered structure as to disturbed integrative activity. In the earliest stages of dissolution, most highly patterned and most recently acquired talents are most vulnerable. The literate adult deprived of his power of expression is eloquent testimony to this fact. The mute, inarticulate, or unlettered child persuades us less well. His disability represents not a loss, to which all are sympathetic, but a failure to acquire, of which most are impatient. Before the appreciation that this is not psychically determined, he suffers the triple criticism of being perverse, intractable, or mentally defective. Each of these pronouncements is admirably designed to add further handicap to an already raging disability.

### Conclusion

The intent and concern of the current

study is to re-emphasize the factor of organic disease of the nervous system in the genesis of dyslexia. In none of our patients was a familial influence apparent, yet all but one had, on routine neurological examination, findings traditionally considered indicative of disordered function. A host of studies has dealt with the perceptual and directional disorders of dyslexics. Aside from Prechtl (1962), however, few have been impressed with a constant pattern of neurologic findings. We have been impressed with the uniformity of abnormalities suggesting the presence of unilateral or bilateral hemisphere disease, with a major functional disability in the realm of reading. We feel that these children constitute a definite, though undetermined, proportion of dyslexics. Because of prognosis and educational factors, recognition of the possible role of minimal cerebral dysfunction is important early in the course.

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### Let's Reminisce!

*Virginia Medical Monthly, February 1881.*

In a report on Venereal Diseases, Prevention of Their Spread, prepared by Hugh M. Taylor, M.D., Medical College of Virginia, Richmond, it was stated that a committee on Venereal Diseases of the American Public Health Association had included in its report the following statement:

"The Committee is of the opinion that when the public knows by how many thousand channels this disease may assail them, they will demand protection at any cost; and they urge upon the Association the necessity of promulgating the fact, that so long as syphilitics are allowed to go unrestrained, the spotless women and innocent children share the danger of contamination with the libertine and prostitute. This Association should let it be known that this fearful pest may be communicated by the blankets of the sleeping car, the sheets, towels and napkins of the steamship, hotel or restaurant; by the hired bathing dresses of the seaside resort, and the costumes rented for the fancy ball; by the chipped edges of the coffee cup, as seen at most hotels and eating-houses, and their half-cleansed knives, forks, and spoons; by the public drinking vessels in the railway car or station, as well as the public urinal or closet; by the barber's utensils; by the brush and comb in the guest chamber; by the hatter's measure, or the borrowed or sample hat; by the surgeon's or dentist's instruments, or the vaccinator's lancet; by the broom or dust-brush handled by the parlor maid, or by the spoon touched by the mouth of the cook or nurse; by the toys sold to children in the streets by vendors, with poisoned lips and fingers; by playing-cards and visiting-cards, which have been used, and especially by car tickets and by the paper money which circulates in a city where 50,000 syphilitics are at large; by the loaned pipe, or cane, or glove; by the grasp of a friend's hand, or the kiss of an accepted lover; by the son to his mother and sister; the husband to his wife and unborn child, and by the latter to its mother."



# Pits or Holes in the Optic Disc

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*Progressive loss of the visual fields is reported in a patient with congenital pits of the optic discs. This progressive loss is difficult to explain.*

THE OPHTHALMOSCOPIC PICTURE of holes or pits in the optic disc is not uncommon and has been repeatedly noted since its description by Wiethe (1882). Since Wiethe's original observation the literature has become extensive: Greear (1942) reviewed 69 cases in the literature and added three of his own. Eisum (1957) brought the total up to eighty cases. Krannenberg (1959) analyzed 24 cases adding six of his own; while Sugar (1962) reported six personal cases.

The ophthalmoscopic picture is very striking and unmistakable. The pits are usually oval in shape, the long axis being concentric with the margin of the disc, but it may be circular, triangular or slit-like. In size it varies from one-eighth to one-half the diameter of the disc. The edges are sharp and the cavity usually appears to be directed straight backward into the nerve, but it may be oblique. The depth varies from a barely appreciable amount to 8 or 10mm. while occasionally the bottom of the pit is not visible. Usually the floor can be clearly seen and it may be covered by soft grey tissue—it is frequently described as being pigmented, an appearance which may be

due to either to the presence of pigment or to shadows from the depth of the excavation. Occasionally a delicate greyish veil forms an overlying membrane which has been observed to pulsate (Holloway 1915), a phenomenon probably due to an impulse from the central retinal vessels.

In the majority of cases reported in the literature the pit has been unilateral although both discs may be involved (Tyson 1927). The excavation is usually single, close to or touching the edge of the disc, or more rarely situated near its center. It is usually situated in the lower temporal quadrant of the disc, rarely on the nasal side and still more rarely in the upper half of the disc. Sometimes two fossa are present (Wiethe 1882, Stephenson 1909, Andersen 1953); three separate pits have been noted in a large colobomatous disc (Van der Hoeve 1906) and exceptionally four (Vauthier and Zanen 1913).

The central vessels usually have their normal arrangement, escaping the pit, but if a vessel crosses the pit it usually dives down into its depths to reappear on the other side.

Pathological examinations of such holes have been rare. They all agree that the pit is formed by rudimentary retinal tissue associated with irregular glial elements and remnants of nerve fibers and pigment epithelium. The fossa itself is partially filled with irregular glial elements which account for the veil-like appearance. In the region of the pit the lamina cribrosa is defective and the entire anomalous arrangement is limited within the dural sheath, the sclera and choroid being normal.

The nature of the anomaly is generally conceded to be a miminal coloboma, usually in an atypical position. The pathological appearances conform to herniation of the

Presented at the Annual Meeting of The Virginia Society of Ophthalmology and Otolaryngology, Charlottesville, April 29, 1966.

neural ectoderm associated with colobomata elsewhere, indicating an active proliferation of the retinal tissues into the nerve-head or the intermediary tissues at the margin of the disc. There may be associated coloboma of the disc, a minimal coloboma of the fundus in association with the pit or association of a fully formed coloboma of the fundus in the same or opposite eye.

Clinical symptoms may be absent so that the anomaly is often discovered by accident. Frequently, however, defects are present in the visual fields, the most common of which are an enlargement of the blind spot and sector defects, and particularly an involvement of the papillo-macular bundle with the production of a partial or complete paracentral or central scotoma. Vision may be gravely affected in such a case.

### Case Report

This 63 year old white female came on March 2, 1955, for a routine check on her eyes and without significant complaints. Vision in the right eye was 20/30 and in the left 20/20—. Manifest refraction gave the following results: O.D.  $-0.75s = +0.25c$  ax 15 20/20 O.S.  $-0.75s$  20/20 Add +1.00s J#I.O.U. The media were clear. Examination of the fundi showed the right eye to have some pallor of the lower portion of the disc and in the lower temporal quadrant of the disc was an oval pit which extended to the disc margin and involved approximately one-fifth of the surface of the disc. This pit was approximately six diopters in depth and the bottom of it was filled with a filmy veil like substance. The left disc was similar in appearance with a pit or hole in the lower temporal quadrant involving approximately one-fourth of the total surface of the disc. The pit in the left disc was approximately four diopters in depth and the bottom of the pit had the appearance of the cribriform plate. There was a small vessel passing over the edge of each pit, where it bent sharply and almost disappeared but

on careful focusing could be picked up running across the floor of the pit.

Visual fields at this time showed a bilateral upper nasal quadrant defect with some enlargement of the blind spot in the left eye and an accompanying scotoma above and somewhat temporal to fixation. (Figs. 1 & 2). The intraocular tension was 17.3

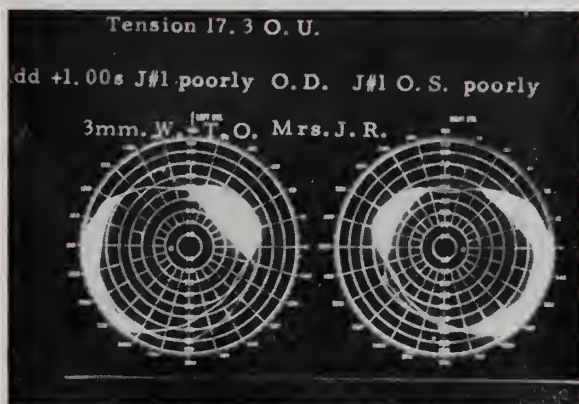


Fig. 1



Fig. 2

(Schiotz) in each eye and it was felt that this was not a glaucoma but a case of bilateral pits in the optic nerves.

The patient was seen again six weeks later with no appreciable change in visual acuity or in the fields. Again four months later conditions remained unchanged. At this time it was felt another opinion would be desirable and she was referred to Dr. Frank B. Walsh of Baltimore for an evaluation. He felt that she did not have glaucoma but advised continuation of a miotic which I had instituted several months before as a precau-



tionary measure in the event this proved to be a case of "low tension glaucoma". Skull x-rays at this time were essentially negative.

By July 1956 there was beginning to show

further change in the fields and no change in acuity, appearance of discs or in intra-ocular tension until December 1965 when she came in for a routine check and stated she did not see so well in upper fields. The

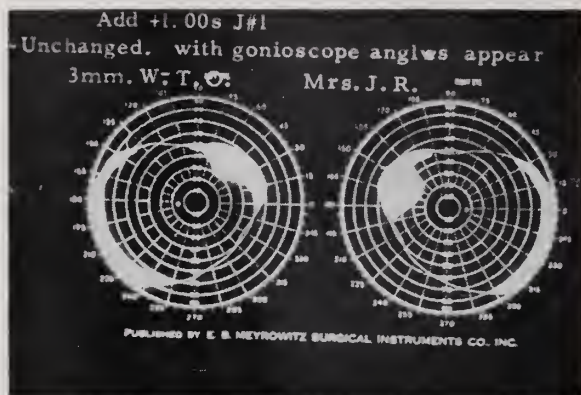


Fig. 3

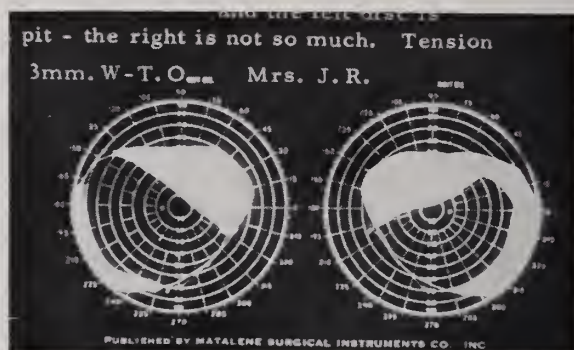


Fig. 6

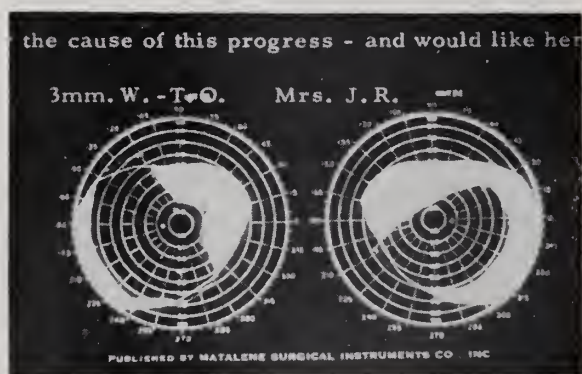


Fig. 4



Fig. 7

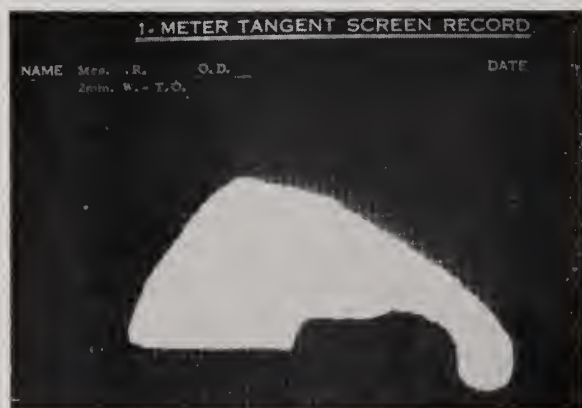


Fig. 5



Fig. 8

a slight change in the peripheral field (Fig. 3) although there were no other changes noted. Following this this patient was checked at intervals of six months with no

peripheral and central fields at this time are illustrated (Figs. 4 & 5). At this time she was again referred to Dr. Frank Walsh.

Dr. Walsh reported that he still felt this condition was congenital pits of the optic



nerve. He reported that tonography showed a normal outflow and that the water drinking test was negative. He is, however, unable to explain the progressive field loss on congenital pits. (Fig. 6).

Photographs of the fundi show the pits that I have described (Figs. 7 & 8). However, no cause has been found for the progressive field loss and it is primarily for this reason that this case is being reported.

### Summary and Conclusions

The nature and appearance of pits or holes in the optic nerve are discussed. These may cause field changes in both the central and peripheral fields closely resembling the visual fields of glaucoma. However, in practically all of the reported cases there has been no progression of the field changes.

A case of a white female, age 64 when first seen, with what appeared to be characteristic pits in each optic nerve is reported. This patient has been followed over a period of eleven years and the intraocular tension has always been found to be normal, tonog-

raphy was normal and provocative tests for glaucoma negative. In spite of this during the past year there has been rather marked field loss. As far as the author has been able to determine there is no known cause for these late changes.

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### Clinical Center Study of Blood Hyperviscosity

The cooperation of physicians is requested in a continuing clinical study of Waldenström's macroglobulinemia and related hyperviscosity syndromes being conducted by the National Cancer Institute at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Of interest are patients with retinopathy, mucous membrane bleeding, vertigo or other clinical disorders associated with elevated serum viscosity. Patients should be willing to participate in studies which will include a thorough evaluation of clinical status and measurement of pulmonary and cardiac blood flow before and after reduction of

serum viscosity by plasmapheresis. Anticipated hospitalization is about three weeks. Upon completion of their studies, patients will be returned to the care of the referring physician who will receive a full report of the studies done.

Physicians interested in having their patients considered for this study may write or phone one of the following: John R. Wunderlich, M.D.; Dean L. Mann, M.D., or John L. Fahey, M.D., Clinical Center, Room 4B-18, National Institutes of Health, Bethesda, Maryland 20014. Telephone: 656-4000, Ext. 65461 (Area Code 301)

# Psychotropic Drug Therapy in Children and Adolescents

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*Psychotropic drugs are widely used in children with emotional and behavioral disorders. A clinical evaluation of these drugs has been made on the basis of experience in a child guidance clinic.*

A PRIME TOPIC for discussion during the 1966 annual meeting of the American Psychiatric Association was the question of drug safety and effectiveness in children and adolescents. This stimulated the evaluation, reported here, of the drug therapy employed at this clinic for emotional and behavioral disorders in children. Approximately one thousand children come to this center yearly for psychiatric diagnostic evaluation and therapy.

This study reflects the writer's experience and approach to the problem. It is anecdotal and based upon clinical evaluations of the effectiveness of psychotropic drugs in general upon target symptoms. In brief, it is an appraisal of drug safety and effectiveness in a clinical setting without the double blind controls that prevail in a research endeavor.

The method employed was to review the records of children treated by drugs within the past two years and to note the progress or lack of progress of the patient, as well as any side effects. Of the patients seen at the Child Guidance Division, approximately

25% receive actual on-going therapy in one form or another, with about 30% of these receiving some form of psychotropic drug. It must be emphasized that drug therapy in general and especially in children does not replace psychotherapy, individual or group or family counselling, whenever indicated. Chemotherapy at this Center has been used mainly as an adjunct to other therapies, for it is designed to tackle target symptoms and not disease entities.

The drugs employed at this Center fall into four groupings: 1. Phenothiazines, 2. Anti-depressants, 3. Energizers, and 4. Anti-convulsants.

The most frequently used drug at this Center is thioridazine. This drug has established a good place for itself in the treatment of various mental disorders in children, including schizophrenia, mental retardation, organic brain impairment, psychoneuroses with high anxiety level such as are seen in school phobias, as well as in epileptic children who exhibit emotional disturbances. It has also been employed to advantage in rebellious adolescents and in adolescents having a high level of anxiety occasioned by intense, impulsive feelings and overwhelming sexual stimuli.

There are a number of reasons why thioridazine has been so useful in a wide variety of disturbances. It has a definite antipsychotic effect manifested by its capacity to counteract such symptoms as belligerence, violence, hallucinations, delusions and panicky feelings. It also has an anti-anxiety effect especially desirable in hyperactive children and in children with school phobias. Its usefulness in such children is enhanced by its relative freedom from lethargy or ataxia.

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This permits a wider dosage range, from 30-400 mg. a day, and gives the therapist a great deal of flexibility and freedom in choosing a dose that is effective and well-tolerated. Nowhere is this latter facet better demonstrated than in its freedom from Parkinsonism, a side-effect that limits the usefulness of other phenothiazines. Parkinsonism has not been observed in our children even with such high doses as 300 mg. of thioridazine per day. A review of our records reveals that agranulocytosis, pigmentary retinopathy and jaundice were not seen in any of our cases. There is some occasional reduction of white cell counts but these have been transient and of no significance. Photosensitivity, which has occurred with other phenothiazines in this geographical location where children spend so much time on the beaches, was not detected in any patients receiving thioridazine. It is questionable whether weight gain should be considered a side-effect for this is thought to be a beneficial by-product to the reduction of anxiety and hyperactivity.

Very favorable results have also been obtained with thioridazine in hyperkinetic children, especially those with a history of brain damage and mental retardation. Motor hyperactivity was found to be decreased and activities became more goal-directed rather than aimless and bewildered. This has a very important impact on their learning capacity. Many of these children are in special classes while others are in special schools for retarded children. Teachers have reported that concentration and attention span were improved in the majority of cases receiving thioridazine. In addition to serious emotional disturbance of a schizophrenic or psychotic nature some of the brain-damaged children exhibit epilepsy as well, for which anticonvulsants are prescribed. The addition of thioridazine has helped resolve the emotional disorder in a number of these without increasing the incidence of seizures.

A more objective appraisal was derived from a study of thioridazine in 50 patients

selected from a group of mentally retarded children. In addition to organic brain damage, they presented various degrees of emotional disorder varying from overt schizophrenic illness to hyperactivity, belligerency and behavioral problems. Thioridazine was given for 6-18 months in doses titrated to achieve maximum effect. Very good to good improvement was obtained in 34 of these children as measured by a reduction in tendency to self-destruction, aimless behavior, hyperactivity, high anxiety level and psychotic symptoms.

It should be noted that these 50 cases were the most difficult to treat in terms of severity of illness. While the therapist has to limit his goals in treating such seriously disturbed children, he should not overlook the benefits that can accrue from the use of this drug in adequate doses. Too often, there is a tendency to rationalize insofar as dosage is concerned with the result that under-medication must be assessed as the limiting factor rather than drug utility per se.

We have used chlorpromazine primarily in those cases where the target symptom has been severe agitation. It is most logically used when the patient is treated as an inpatient in the hospital and very seldom when the patient is ambulant and coming on weekly visits for psychotherapy. It has been our experience that when the child is agitated to this extent, he usually needs hospitalization as well. The main side-effects noted were somnolence, lethargy, over-sedation, and occasionally, allergic rash. Agranulocytosis was not seen, although mild to moderate decrease in the leucocyte count was observed. We did not encounter any jaundice as a result of the drug.

For the target symptom of withdrawal, whether due to autism, schizophrenia, or depression, we have tried various anti-psychotic drugs such as trifluoperazine, triflupromazine or fluphenazine. Improvement of varying degrees was noticed in those children who were primarily psychoneurotic and depressed. Schizophrenics improved



much less frequently, while autistic children showed even less improvement. As expected, side effects were of a higher incidence, the most common being muscular rigidity, parkinsonism-like tremors, ataxia and oculogyric crises. While these reactions may be controlled, the use of anti-parkinsonic agents as maintenance is not recommended because their potentiation can lead to an excessive sedative effect. Even more objectionable is their capacity to induce hallucinations and to generate withdrawal symptoms when they are continued.

It is pertinent to note that three schizophrenic children, ages 12, 9 and 8 years, who were not known to hallucinate before the beginning of therapy, were observed to hallucinate after being given high dosages of three different phenothiazines. The hallucinations were accompanied by marked cloudiness of sensorium and a delirium-like state. The intensity of this syndrome was variable and subsided completely following a reduction in the dose of the respective phenothiazines. This hallucinated, delirious condition initiated by phenothiazine therapy in children has not been reported before to my knowledge.

For children with considerable anxiety manifested by such symptoms as morning sickness or abdominal cramps and vomiting of psychogenic nature, we have used prochlorperazine with fairly favorable results.

For enuresis of psychological origin, we have used imipramine. This must be used in adequate dosage even in those as young as 7 or 8 years. It is a mistake to give it only at bedtime since its effect seems to be most manifest when it is given three times a day. Along with psychotherapy, "bladder training exercises" are recommended. These consist of drinking excessive amounts of fluids during the day and attempting to postpone urinating for as long as possible. This helps the child stretch his bladder rather than becoming anxious over emptying it too frequently and too soon which may lead to functional shrinkage or contraction. This

technique of bladder training exercises, in addition to imipramine and psychotherapy has produced fairly good results in the majority of such cases. No side effects have been seen in our patients.

For adolescents who have suffered from psychoneurotic depressive reactions, especially with no or very little psychomotor retardation, a combination of a monoamine-oxidase inhibitor with a minor tranquilizer has a calming as well as an anti-depressant effect.

Hyperkinesis is seen mainly in younger children. Occurring in a child under 10 years of age, without EEG abnormalities, or if present, being diffuse and without convulsions and without psychosis, the most effective drug utilized at this Center has been dextroamphetamine. One has to be particularly careful with the initial dose since the desired paradoxical effect of sedation and calmness may be replaced in rare instances by exacerbation of hyperkinetic activity. This drug has been used with a fair amount of success in controlling the motor activity of brain-damaged children. It does not have an anti-psychotic effect, and may, in fact enhance some of the schizophrenic symptoms. A not uncommon side effect of this drug is anorexia, an effect that may be desirable in some cases where compulsive eating is one of the undesirable symptoms sometimes seen in brain damaged children.

Some children with hyperkinetic behavior may experience a rage reaction, one which has at times been considered equivalent to a convulsive seizure. If the child shows a temporal lobe dysrhythmic focus on the electroencephalogram, it may respond to a therapeutic trial of anti-convulsive drugs. Small dosages of such drugs may also exert a beneficial effect on the behavior and hyperkinesis. On the other hand, wild, rebellious adolescents who have high anxiety levels may benefit from the administration of a psychotropic drug to help maintain self-control and to minimize anxiety levels. Since

emotions do affect the seizure threshold, the addition of a psychotropic drug to tackle a target symptom is not contra-indicated by the presence of epilepsy—in fact, it may have a beneficial effect on seizures as well.

The management of anorexia nervosa has yielded variable results. For anorexia nervosa which requires hospitalization, we have followed the method recommended by Sargent and Slater<sup>1</sup> which consists of hospitalization with strict dietary control, high caloric diet—if refused, tube feeding may be used, but this usually is not necessary—and regular insulin, 10 units, s.c., before meals. The diet has to be supervised by both nursing staff and therapist for the children have a tendency to consign their food to the garbage can. It is essential that a supportive psychotherapeutic relationship be established between physician and patient.

### Summary

The purpose of this paper has been to out-

line our approach and experience with psychotropic drugs in children and adolescents with special reference to areas of efficacy and toleration.

### GENERIC AND TRADE NAMES OF DRUGS

Thioridazine—Mellaril  
Chlorpromazine—Thorazine  
Trifluoperazine—Stelazine  
Triflupromazine—Vesprin  
Fluphenazine—Permitil, Prolixin  
Prochlorperazine—Compazine  
Imipramine—Tofranil  
Dextroamphetamine—Dexedrine

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### Clinical Center Study of Patients with Chylous Ascites

The cooperation of physicians is requested in the referral of patients for a study of chylous ascites being conducted by the Metabolism Branch of the National Cancer Institute at the Clinical Center of the National Institutes of Health in Bethesda, Maryland.

Of interest are patients with chylous effusions including those with effusions secondary to congenital lymphatic abnormalities, trauma, localized or diffuse retroperitoneal disease (including pancreatitis) and neoplasm. Studies will be directed at determining the relationship of ascites to lymphatic abnormalities, immunological defects, serum protein depletion, and protein-losing gastroenteropathy.

Selected patients will be admitted to the Clinical Center and receive full diagnostic work-up. Upon completion of their studies, patients will be returned to the care of the referring physician who will receive a full report of the studies done. Where possible, recommendations for therapy will also be made available to the referring physician.

Physicians interested in having their patients considered for admission to this study may write or telephone: Warren Strober, M.D., or Thomas A. Waldmann, M.D., Clinical Center, Room 4-N-110, National Institutes of Health, Bethesda, Maryland 20014. Telephone: 656-4000, Ext. 66480 (Area Code 301)

# Current Concepts in the Management of Caustic Burns of the Esophagus

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*Early thorough diagnostic studies and the formulation of an overall treatment program are necessary for good results in the management of caustic burns of the esophagus.*

FORTUNATELY CHEMICAL BURNS of the esophagus are seen infrequently today. However, they still present a formidable problem in both their immediate and long term treatment program. Accidental ingestion of the agents is the most frequent source of these injuries in children whereas intentional ingestion in attempted suicide is the most frequent in adults. Lye which contains about 95 per cent sodium hydroxide is responsible for about 70 per cent of the cases of corrosive esophagitis. Sulfuric acid, nitric acid, and hydrochloric acid are less commonly ingested due to the fact that they are not as readily obtained as the various lye preparations. Other corrosive agents include phenol (carbolic acid), acetic acid, ammonium hydroxide, iodine, bichloride of mercury, lactic acid, lysol, copper sulfate, formaldehyde, silver salts, potassium permanganate, kerosene, spirits of camphor, potassium carbonate (salts of tartar), sodium carbonate (washing soda), chlorine, chloroform, and saponated cresol solution among others.

From the Department of Otolaryngology, University of Virginia School of Medicine.

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All of the corrosive agents are capable of producing severe injury to the esophagus, but in general the acid substances tend to produce their most severe damage beyond the esophagogastric junction especially in the prepyloric region. The alkaline chemicals conversely produce most of their changes above this level including the esophagus primarily, but also the larynx, hypopharynx, and oral cavity. Acid agents produce a coagulation necrosis whereas alkaline agents produce a liquefactive necrosis which is more penetrating.

## Symptoms

Following the ingestion of the caustic agent there is usually intense pain and rather marked esophageal spasm and vomiting. This esophagospasm allows the corrosive agent to remain in the esophagus longer and the vomiting allows a second insult to the esophagus as the corrosive substance passes from the stomach back through the esophagus. Respiratory symptoms may develop if the larynx (or trachea) is involved with burns, or if the excessive saliva is aspirated. Fever and tachycardia will develop in the untreated case due either to infection of the esophagus or lungs, or both. In the severe or so-called third degree corrosive burn, a rapid down-hill course may ensue with high fever, dehydration and shock.

In the less severe case there is usually a latent asymptomatic period from about the fifth day to the second to sixth week. If a stricture is beginning to form, symptoms of dysphagia may re-appear gradually or suddenly at the end of the latent or asymptomatic period and then progress to signs of almost complete obstruction.



## Pathology

Examination of the patient immediately after the ingestion will reveal patchy or diffuse grayish-white areas of coagulated mucous membrane with rapidly increasing edema. The coagulated areas proceed to form ulcerated areas with some bleeding and release of considerable amounts of exudate within 24 hours. These changes are essentially the same throughout, from the mouth to the esophagogastric juncture, varying only as to degree. The edema usually will begin to subside by the third or fourth day, but the tissue destruction as evidenced by enlarging ulcerated areas and sloughing, continues for five to seven days. The period of repair actually begins with the appearance of the fibroblasts in the first 24-48 hours, but from a practical standpoint not until the collagen fibres appear somewhere between seven to ten days after the injury. The gross appearance of the esophagus during this time is that of irregular areas of vascular granulation tissue with little or no edema. Scar formation with resulting stenosis begins to develop sometime after the end of the second week.

Stumboff<sup>1</sup> classified the corrosive burns into first, second, and third degree burns with the symptoms, findings, and subsequent course as follows:

First degree burns occur in about ten per cent of the cases with symptoms of nausea, vomiting, and pain. The superficial cells slough out and mucosal and submucosal edema may result.

Second degree burns occur in about 63 per cent of the cases. These lesions are more severe. Bleeding occurs in most all of these and there is severe pain with inability to swallow. The patient's temperature may rise to 103 or 104 degrees for three to five days, after which they may be asymptomatic for 18 to 25 days.

Third degree burns occur in the remaining 27 per cent and obviously carry a grave prognosis. Acid agents turn the mucous membrane black while alkaline substances

cause the mucous membranes to become edematous with ulcerations which are covered with brownish-gray exudate or slough. This burned mucosa may be eliminated entirely during vomiting as a single element.

First degree burns of the esophagus, from corrosive agents, cause damage to the mucosa and submucosa. As a result, stricture formation should not occur with this superficial injury.

Second degree burns involve the mucosal, submucosal, and occasionally muscular layers. Stricture formation in the untreated second degree burn is rather frequent.

Third degree esophageal burns involve the entire thickness of the esophagus including the fibrous outer layer and may actually extend into the periesophageal tissues with all of the complications of esophageal perforation.

The exact degree of esophageal burn is a post-mortem determination, but the degree can be estimated from the history, esophagoscopic examination, symptoms, and subsequent course.

## Management

The management of a patient with a chemical burn of the esophagus may vary somewhat from patient to patient, but some general principles will apply to all such cases. First of all it is important to perform a rapid assessment of the patient's general condition and institute any life-saving measure necessary such as tracheotomy, blood transfusions for shock or hemorrhage, and analgesics for severe pain.

The next step is to determine the type and amount of corrosive agent ingested, if at all possible. A careful history should include the above plus the following information: time elapsed since ingestion; whether or not vomiting has occurred; the nature of the vomitus as to amount and presence or absence of blood; and any sign or symptoms suggestive of perforation of the esophagus such as high fever, subcutaneous air in the neck; prostration.

Neutralization of the corrosive agent is rarely effective but should be attempted if the patient is seen within one to six hours after the injury. For alkaline substances one half strength vinegar, orange juice, or lemon juice plus copious amounts of water may be given by mouth, if possible. Gastric lavage is strongly contraindicated in alkali burns, but may be of value in acid burns. For acid substances bicarbonate of soda, milk, or epsom salts solution may be used for neutralization.

Examination of the mouth and oropharynx as well as mirror examination of the hypopharynx and larynx should be attempted as soon as the preceding steps have been completed. From this step alone a reasonably good preliminary estimate may be obtained as to the extent of injury. Many children will get burns only on the cheeks, lips, and possibly the tip of their tongue. If there is no evidence of any burns on the soft palate, buccal mucosa, or oro-hypopharynx, it is then possible to treat their burns with local treatment, and simply observe them for signs of odynophagia, dysphagia, or inability or refusal to swallow food or saliva for the next 24-48 hours. No further diagnostic or therapeutic measures are then necessary. If there is any doubt in the mind of the examiner as to the adequacy of the examination of the oro-hypopharynx, then it is advisable to proceed to the next step in management.

Esophagoscopy examination of patients with esophageal burns is extremely hazardous at any time. However, the information obtained by direct visualization of the esophagus may be vital in determining the subsequent therapy regime. Esophagologists are not in complete accord as to the best time for esophagoscopy. Some advocate performing the procedure in the first 24 to 48 hours. Others suggest waiting until after the third day when the edema subsides and a more critical examination is possible. And still others prefer to wait until after a barium swallow has been obtained sometime

around the tenth or eleventh day, feeling that at this time there is less chance of complication. In the usual case in which the history and preliminary examination suggests ingestion of a caustic agent, esophagoscopy should be performed as soon as the patient can be prepared. This should be accomplished during the first 24 to 48 hours if at all possible. There are certain restrictions though for this procedure in these patients. The esophagoscope is inserted very carefully and is not forced beyond any area of intense spasm. If and as soon as the first circumferential burn is visualized, the scope is withdrawn and the examination terminated. The advantage of this approach is that an immediate assessment of the status of the esophagus is obtained and the need for a maximum therapeutic effort is determined. Occasionally caustic liquids do not enter the esophagus but do cause sufficient injury to the oral cavity and hypopharynx to mislead the examiner into believing that the esophagus must surely be involved quite as severely. By early esophagoscopy, the patient with the uninvolved esophagus will be saved considerable expense, physical discomfort, and risk to their life. On the other hand if there is any degree of doubt in the examiner's mind as to the presence or absence of an esophageal burn, it is far better to overtreat rather than give no treatment at all.

In the severe caustic burns, a nasogastric tube is routinely inserted early in the course of therapy and left in place for two or three weeks. This tube serves several functions including its use for feeding and hydrating the patient, prevention of complete stenosis of the esophagus, and serving as a guide for the esophagoscope later. In the most severe cases (extensive second or third degree burns) complete esophageal rest for two or three weeks is recommended. Feeding may be through the nasogastric tube or a gastrostomy. In the less severe cases olive oil and milk may be given by mouth during the first 24 to 48 hours. After this, a bland soft or liquid diet may be given by mouth



as soon as the patient will swallow. Occasionally the nasogastric tube may be rather irritating and may cause further esophageal injury with possible hemorrhage. In this case the tube should be withdrawn and oral feedings started. If the oral feedings are not tolerated by the patient, it may be necessary to perform a gastrostomy in this patient and give the fluids and feedings through this opening.

Antibiotics are indicated after a moderate to severe esophageal burn. Secondary infection of the burned areas is the rule and, unless controlled, may lead to problems such as slower healing or spread into surrounding tissues and spaces. Initially one of the liquid tetracyclines or oxytetracyclines with an anti-fungal agent may be given by mouth, or by tube if the patient is unable to swallow. The dosage for these would be 10 to 20 milligrams per pound per day for infants and children, and 250 to 500 milligrams every six hours for adults. These oral suspensions have some topical anesthetic value as well as topical and systemic antibacterial activity. The antibiotic should be given for at least ten days and continued longer if signs of infection persist. If mediastinitis is strongly suspected or has obviously developed, penicillin intramuscularly in large doses should be added to the tetracycline. In addition to the penicillin, drainage of the mediastinum through the transthoracic approach should be performed promptly once the diagnosis has been established.

It has been shown both experimentally and clinically<sup>2,3,4,5,6,7</sup> that if corticosteroids are started during the first 48 hours after a caustic burn of the esophagus, then stricture formation may be prevented in a very high percentage of cases. At this time it would appear from the evidence available that starting steroids after the first 48 hours apparently has little to offer. However, until further clinical evidence has been accumulated it is reasonable to treat all esophageal burns with steroids, if they can be started sometime before the eighth to tenth day

after the injury. Steroids are not without risk as they may tend to cause perforation of the esophagus, stomach, or duodenum. Steroids may also mask a fulminating mediastinitis or pneumonia. They are capable of producing rather marked psychotic changes in these patients. Steroids are contraindicated in the presence of obvious mediastinitis, active or recent tuberculosis, or active peptic ulcer of the stomach or duodenum. The newer steroids are favored over the older cortisone because of the decreased side effects. Potassium replacement may still be necessary with some of the steroids. The dosage for Prednisone is the same for adults and children, e.g., 60 mgm. per day in divided doses for one week followed by 40 mgm. per day for one week. After the second week of steroid therapy it is possible in most cases to taper the dosage gradually during the third week and then discontinue the Prednisone at that point. One point that Taubenhaus<sup>8</sup> and Yurich<sup>9</sup> make is that ACTH should not be given for the prevention of stricture. Their basis is that ACTH through the stimulation of the adrenals to produce desoxycorticosterone will increase fibroplasia rather than delay it. While the patient is receiving the steroids, a chest x-ray should be performed at weekly intervals to help rule out a silent or masked mediastinitis or pneumonia. Concomitant administration of steroids and antibiotics should be the rule (and this is supported by Rosenberg's<sup>4,5</sup> and Weisskopf's<sup>6</sup> early experimental findings).

Dilation of the esophagus for the treatment and prevention of cicatricial stricture is a time-honored and effective method. Salzer<sup>10,11</sup> popularized a method of dilations which has been modified by many. The Salzer method calls for early dilations beginning the first day with a soft elastic hollow bougie of small size while others suggest waiting three days, ten days, and some three weeks before initiating bouginage. Retrograde dilations as advocated by Tucker<sup>12</sup> through a gastrostomy are rather safe and effective, but do require the



extra burdens of a gastrostomy and the wearing of a string at all times which enters the nose, traverses the esophagus, and exits through the gastrostomy. This string is used to attach the retrograde bougies and pull them through the esophagus in retrograde fashion. Once the dilatations have been started, they should be performed daily for two weeks after which the period between treatments may be gradually increased over the next one to six years. The need for subsequent dilatations depends upon many factors such as the patient's symptoms, the radiographic studies and the esophagoscopic findings. It is important that the patient or the patient's family understand the need for this intensive long term therapy and follow-up examinations from the very beginning. The indications for instituting dilatation therapy are: those patients who have second or third degree burns who are not started on steroids (these include those who have contraindications for steroid therapy and those who are not seen until over 48 hours have elapsed since time of ingestion); those patients who are receiving steroid therapy and who begin to develop a stricture in spite of therapy. Those patients who are started on steroids in the first 48 hours after ingestion of the caustic agent and in whom there is no radiographic, esophagoscopic, or symptomatic evidence of stricture formation are not dilated.

For the patient who develops a severely strictured esophagus in spite of or in the absence of the intensive therapy outlined above, the thoracic surgeon is able to offer several alternatives. Resection of solitary areas of stenosis with end-to-end anastomosis is a fairly successful procedure, but all too often the strictures are multiple and quite long. Sweet<sup>13</sup> reported a high intra-thoracic esophagogastric anastomosis with subtotal esophagectomy in 1946 and this has proven to be a reasonably good procedure when it can be accomplished. Postlethwait and Sealy<sup>14</sup> in discussing the merits of the various esophageal replacement pro-

cedures state that they prefer the colon, stomach, and jejunum in this order. While these procedures are rather extensive and formidable, they offer a great deal of hope for rehabilitation of these patients who have the severely strictured or stenotic esophagus.

### Summary

A general discussion of the etiology, causative agent, symptomology, and pathology of caustic burns of the esophagus is included in this manuscript.

Early esophagoscopic examination followed by prompt institution of a steroid-antibiotic regime is recommended to prevent esophageal stricture formation.

Esophageal dilatations still have a place in the management of caustic burns of the esophagus, but today play a smaller and less frequent role.

Esophageal anastomosis along with esophageal replacement by colon, stomach, and jejunum are discussed briefly.

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## Disability from Diseases of the Digestive System

A special study of Metropolitan Life Insurance Company employees covered by Group insurance shows that digestive diseases accounted for about an eighth of the new cases of disability lasting more than a week during the period 1963-64.

The proportion varied by sex; more than a sixth of the disabilities among men but only a tenth among women were reportedly caused by digestive disorders. The small proportion among women applies nevertheless to a much higher disability rate from all causes, so that, actually, the rate of disability from digestive diseases is higher among women than among men.

The incidence of disability from digestive disorders rises rapidly with advance in age, especially for the men. Between ages 17-24 and 45-64 it more than triples among men and almost doubles among women, reaching a figure for the oldest age group that is nearly the same for both sexes.

Several of the digestive disorders showed marked differentials in incidence by sex. Hernias of the abdominal cavity disabled males five times more frequently than they did women, but diarrhea and enteritis occurred three and a half times more often among women employees. To a lesser degree, ulcers were more frequent among men. This is in substantial agreement with

the findings of other studies.

The leading digestive diseases among men were stomach and duodenal ulcers and hernias of the abdominal cavity; together these conditions accounted for over half of all male disability from digestive disorders. Disability from ulcers increased from 2.1 per 1,000 men at ages 17-24 to 7.3 at ages 45-64, while the corresponding rise due to abdominal hernias was even sharper, 1.1 to 8.6. Disorders of the gallbladder and other digestive diseases, principally diverticulitis and disorders of the anal and rectal region, became important causes of disability in the group aged 45-64.

Female employees were incapacitated far more often by diarrhea and enteritis than by any other disorder of the digestive system. At ages 45-64 ulcers, gallbladder diseases, and other disorders—mainly diverticulitis and diseases of the buccal cavity and esophagus—are also important causes of disability among women. As among the males, appendicitis is an important cause of disability only at ages under 25.

The claim records relating to disability from digestive disorders point to a more frequent association with emotional stress than is the case with most other causes of disability. (*From the Statistical Bulletin of The Metropolitan Life Insurance Company.*)

# Neurilemmomas of the Head and Neck

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*Neurilemmomas, benign and malignant are discussed and an interesting case is presented.*

A NEURILEMMOMA is a solitary encapsulated benign tumor arising from the cells of the neurilemma, or sheath of Schwann.<sup>1</sup> It may occur along the course of a peripheral, cranial, or sympathetic nerve.

The Schwann cell is a most interesting and versatile cell and is responsible for the majority of neurogenous tumors of the head and neck.<sup>3</sup> It possesses an extensive regenerative potential, even to the point of producing fibrous tissue. Its benign neoplastic growth can occur in any nerve fiber possessing a neurilemma. Its malignant growth, the malignant Schwannoma, generates from the neurilemma also.

Schwann cells are derived from neuroectodermal cells that grow out with nerve fibers from the neural crest.<sup>4</sup> They are absent from the central nervous system and are considered "peripheral neuroglia" which have left the central nervous system and have become adapted to the peripheral nervous system.<sup>5</sup> As the axons grow, the Schwann cells follow, enveloping each individual axon of neurofibrils in a myelin sheath. Thus, the axon with its sheath of Schwann is a nerve fiber.<sup>6</sup> Between these individual nerve fibers pass fine strands of collagen fibers, fibroblasts, and fixed macrophages, constituting the endoneurium. The endoneurium arises from the perineurium which in turn surrounds a fascicular ar-

rangement of individual nerve fibers. These fascicles are in turn surrounded by the outside layer of the nerve, the epineurium, and also connective tissue and collagen. Interestingly, the optic nerve possesses no endoneurium, and never seems to develop neurilemmomas.<sup>11</sup>

Stout<sup>7</sup> feels that the tumor forms inside the epineurium and, as growth proceeds, the nerve fascicles are spread out over the surface of the tumor. If the tumor is small, it is solid. If large, it degenerates and becomes cystic. He feels the tumor is usually solitary, but can be found in von Recklinghausen's disease. Microscopically, he describes two general arrangements: (1) tightly packed Schwann cells in cords or bands with a delicate reticulum, with frequently palisading nuclei (Antoni A type) or, (2) loosely arranged Schwann cells in a reticulum with microcysts (Antoni B type). He also writes of foam cells which are phagocytes with lipid content. Occasionally, there are thick collagen sheaths with vasa in them. Palisading nuclei occasionally assume an organoid appearance suggesting an exaggerated tactile corpuscle sometimes called a Verocay body.

The tumor enlarges slowly, usually causing no symptoms. Pain is absent and the patient merely relates his awareness of the tumor mass. If the tumor enlarges and is situated in a vital area, it can cause interference with breathing, swallowing, talking, moving the head, etc., and may then be associated with pain or paresthesias.

Malignant Schwannomas have no connection with the benign variety. No malignant change in a previously benign tumor has been reported. However, they do have a definite and specific association with multiple neurofibromatosis (von Recklinghaus-

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sen's disease). It is estimated that about one-half of malignant neurilemmomas arise in persons with disseminated neurofibromatosis. It carries a poor prognosis as it infiltrates and metastasizes readily through the blood stream to the chest, bone, liver, and brain, whereas lymphatic invasion is uncommon. It is not encapsulated.

Gore<sup>9</sup> reported in their study of 138 neurilemmomas outside the central nervous system that 52, 37.6%, were situated in the

In 1960, another Mayo Clinic group reported<sup>8</sup> their experience with 143 patients seen from 1910 through 1957. Five of these patients had two tumors, a total of 148 tumors. Tumor size varied from 0.3 cm to 10 x 9.5 x 5.5 cm. Forty-eight patients knew of their tumor for a year, 21 for over five years, and one was aware of it for 30 years. In five patients, there was an extension into the vertebral foramen, a dumbbell tumor, which produced left-sided body



Fig. 1. One year post-operative.

head and neck. It is with this extracranial tumor that this paper is concerned.

In 1947, New and Devine<sup>2</sup> reported on a series of neurogenic tumors of the head and neck seen at the Mayo Clinic. They made no attempt to separate neurilemmomas from neurofibromata. Tumor locations were as follows: nasopharynx 1; nasopharynx and hypopharynx 1; oropharynx and hypopharynx 3; tonsillar region 3; larynx 2; antrum, nasopharynx, and sphenoid sinus 1; nasal cavity 2; vestibule of nose 2; nose bridge 2; nasal alae 2. Four of these nineteen patients had von Recklinghausen's disease.



Fig. 2. One year post-operative. Incision line marked in ink.

weakness in one patient, due to compression of the cervical portion of the spinal cord. In only 22 of the 148 tumors could the nerve of origin be ascertained: 7 sympathetics; 7 cervical nerves; 5 Vagus nerve; 1 descending hypoglossal nerve; 2 brachial plexus. No recurrence was noted except in the dumbbell type, which calls for a laminectomy at the time of the original surgery.

Four additional patients had malignant

Schwannomas. The microscopic sections all exhibited increased cellularity, varying degrees of pleomorphism, and easily found mitotic fibers in addition to the usual neurilemmoma pattern. No capsule was noted. Two patients died at one and three years respectively after an initial attempt at removal.

Sixteen patients with neurilemmomas of the parapharyngeal area (i.e., ascending ramus of the mandible, mastoid bone, vertebral column, and pharyngeal wall) were reported by McIlrath et al.<sup>10</sup> One-half of these patients were asymptomatic. One



Fig. 3. Waters view indicating upper outer quadrant (maxillary sinus) density.

patient had a Horner's Syndrome, another had an ipsilateral vocal cord paralysis. No operative deaths were noted. Operative complications were: Horner's Syndrome 3 (2 of which were permanent), and ipsilateral vocal cord paralysis 3. Only one recurrence was noted.

Goethals and Lillie<sup>12</sup> reported the only known case of a neurilemmoma of the epiglottis. Sprinkle<sup>13</sup> sent me tissue slides and the case history of a 51 year old white male with a tumor of the parotid gland originating in the facial nerve.

According to Conley,<sup>2</sup> the treatment is

total surgical removal of encapsulated non-metastasizing tumors which are insensitive to radiation. In the majority of cases, care with the isolation of the nerve while the tumor is being removed will preserve the continuity of the neural bundle. If it is necessary to excise more than 2 cm of the nerve and this nerve has vital clinical significance, one should consider the immediate implantation of a free nerve graft.

### Case History

The patient, a 38 year old white female, referred by a neurosurgeon, was first seen by me on April 28, 1965. Her history was



Fig. 4. Lateral view, skull with clay to show: (a) osteotomy line with wire holes in zygoma made to gain access infratemporally; (b) tumor location (dark) with respect to temporalis and masseter muscles.

that of a painless, slightly enlarging mass in the left temple for four months. Her friends and family felt that she had some left eye swelling. She denied headache, diplopia, or nasal symptoms.

Her physical examination was normal except for a non-tender, rounded, smooth, soft, diffuse swelling occupying the anterior one-half of the left temple over the zygomatic process. The left eye was more prominent than the right, and ophthalmologic consultation revealed 0.5 cm of exophthalmos. A neurologic evaluation was within



normal limits, to include investigation of the second division of the trigeminal nerve.

X-rays revealed a destructive lesion involving the lower, outer quadrant of the left orbit. There was a soft tissue density projected through the upper outer quadrant of the left maxillary sinus. The optic foramen was normal.

Her past history revealed the removal of a right brachial plexus neurilemmoma elsewhere in June 1956.

The family history revealed no tumor tendencies.

On May 1, 1965, the usual Caldwell-Luc incision was made on the left and the an-

incision was extended laterally over the zygoma for 3 cm. The usual accompanying gingivo-buccal incision was made and this was likewise extended laterally and posteriorly over the maxilla as far as possible. The flap was then elevated. The entire face of the maxilla was then exposed. A great deal of polypoid, mucosal hypertrophy was noted to protrude from the antrum through the previously done Caldwell-Luc. This opening was enlarged. The anterior one-fourth of the masseter muscle insertion on the zygoma was elevated, exposing the zygoma and its process posteriorly for 4 cm. The temporalis muscle was elevated along the outer bony orbit margin and posteriorly and it was here that the tumor was noted to be presenting over the zygomatic arch. This aspect of the tumor was exposed further by blunt dissection of the temporalis muscle.

Attention was then directed to the maxillary sinus. All of the mucosa was removed except that over the upper outer aspect which covered the tumor where it had broken through the wall of the sinus as previously described.

We then examined the orbit and its contents by dissecting the tumor away from the antero-lateral orbit rim. The tumor had eroded through the bone as noted by x-ray. We separated the tumor from the orbital contents by blunt dissection. The area directly under the zygomatic process medial to the masseter muscle was then exposed and the tumor was noted. Blunt dissection was employed here and the tumor was palpated in the angle between the maxilla and zygomatic process. It was adherent to the buccal fat pad in this area.

trum was entered. Tissue was taken from the tumor which protruded into the antrum. The pathologic report was neurilemmoma.

On May 25, 1966, with the patient under general endotracheal anesthesia, a Weber-Ferguson incision was made on the left after a tarsorrhaphy tube had been placed. This

Greater exposure was necessary and to accomplish this some of the overhanging shelf of the lateral orbital wall was removed. Two holes were then drilled through the anterior portion of the zygomatic process and an osteotomy was performed between these two holes. The zygomatic process was then fractured outwardly without disturbing the

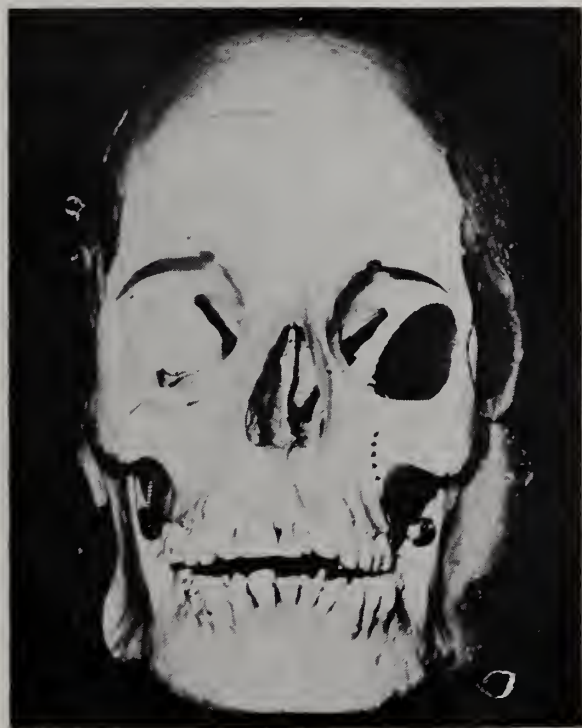


Fig. 5. Skull with clay to show: (a) masseter muscle with its anterior zygomatic attachment detached and folded back; (b) temporalis muscle elevated from tumor; (c) tumor (dark) in lower outer orbit and occupying outer-upper antrum (dotted lines).



muscle or periosteum over the fracture site which was quite posterior. The osteotomy was made in such a way that the downward pressure of the masseter muscle would firmly wedge the zygomatic process on the zygoma.

Having implemented this system of multiple approaches, it remained only to bluntly dissect about the tumor to expose it fully. I was unable to determine a nerve of origin. Posteriorly, the tumor extended to within one-half cm. of the orbital foramen.

Good support for the facial soft tissue remained at the completion of the procedure. We were concerned about support for the eye in view of the infero-lateral erosion of the orbit by the tumor. Consequently, a Teflon graft was placed over this area as a sling support. It was sutured to surrounding periosteum. An iodoform pack was placed in the antrum and this was brought out through an antrostomy. The flap was returned and closure was made in three layers.

The patient's condition during the procedure was excellent. Less than 1000 cc of blood was lost and the patient was given 1000 cc of whole blood.

Her immediate post-operative course was uneventful. Within six months, the usual suborbital edema was virtually gone. A weakness of the left frontalis muscle, supplied by the temporal branch of the facial nerve, was noted immediately post-operatively. This improved a great deal in six months, and by nine months, its motion was normal.

An oro-antral fistula was still present one year post-operatively at the time of this writing. The patient has declined having it closed. She feels it doesn't bother her.

In October, 1965, she developed homol-

ogous serum hepatitis. This cleared without known residua.

Of considerable further interest is the fact that on November 30, 1965, she had a neurilemmoma removed from the left brachial plexus area.

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# Primary Adenocarcinoma of the Appendix

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*Adenocarcinoma of the appendix is an aggressive cancer and is an indication for a right hemicolectomy.*

THE APPENDIX has been a troublesome organ since the days of men famous in history of the appendix such as Battle and McBurney.

The first authentic case of adenocarcinoma of the appendix is regarded to be that of Beyer in 1882, although Marlin, 1838, and Rokitansky, 1867, both described primary tumors of the appendix. In 1905, Kelly and Hurdon in their text on the appendix presented a classification of these tumors. In 1906, Rolleston and Jones reported the first extensive series of Tumors of the Appendix, and in 1932, Normest made a survey of 45,000 appendectomies from United States Hospitals and reported 67 cases. In 1943, Uihlein and McDonald from the Mayo Clinic re-assessed 144 cases histologically for a 30 year period and confirmed five cases of adenocarcinoma. In 1963, Hesketh collected 95 cases from reports mostly in the British, Canadian and United States literature. In his paper the criteria for this condition consisted of an invasive tumor having the characteristics of adenocarcinoma and penetrating beyond the submucosa. Using these criteria from the 95 cases he discarded several cases and analyzed 71 cases which include six cases from Hammersmiths Hospital in London.

Since his review 33 cases to date have been reported; therefore, the total reported

number of well-documented cases of adenocarcinoma of the appendix is 104.

## Histological Classification

Uihlein and McDonald produced the following classification which has provided a standard for several subsequent authors:

1. Carcinoid Type
2. Cystic Type
3. Colonic Type

### 1. Carcinoid Type:

These tumors were shown in 1941 to have the property of reducing ammoniacal silver salts to silver and are now well recognized as a distinct entity. Their golden-yellow color is almost constant and they tend to be multicentric in origin. The cells may be biochemically active secreting 5-Hydroxytryptamine and causing a clearly definite syndrome.

### 2. Cystic Type or Mucocoele:

There is evidence that these tumors are not always malignant. Willis and Aird believe that mucocoeles do not necessarily acquire malignant properties. Woodruff and McDonald, 1940, from 43,000 appendices over a 24 year period at the Mayo Clinic collected 146 cases, of which 10 were due to neoplastic hyperplasia of the mucosa.

### 3. Colonic Type:

We are mostly concerned in this paper with the colonic type. The mucosal structure of the appendix is similar to that of the colon and carcinoma of the appendix behaves similarly to other colonic carcinomas being either polypoid or ulcerative. The rarity of adenocarcinoma of the appendix in spite of its similarity to colonic cancer is surprising but this can be explained by the

fact that the appendix is a retrogressive organ, physiologically functionless, with extensive development of lymphoid tissue.

As to the location of the tumor, it does not seem to favor proximal or distal parts of the appendix. It has been written that adenocarcinoma is to be found in the proximal third and carcinoids in the distal third. From reports, however, 23% are located in the proximal third, 34% in the distal third and 37% are not recorded. As to location in the proximal part, it is a matter of opinion whether it arises from the appendix or the cecum.

As to the progress of the disease, the anatomical features of the appendix affect it. The narrow lumen is soon occluded by even small growths and the disease is manifested as acute obstructive appendicitis. This form is the most common. The other type is infiltrative with perforation of the wall and this process may be increased by deficiency of the muscle coat at certain points. A few cases have been reported in incidental appendectomies coinciding with other abdominal procedures. The appendix is also covered by peritoneum and spreading occurs in the peritoneal cavity via the lymphatics or soiling of the peritoneum by perforation.

### Clinical Manifestation and Diagnosis

The clinical manifestation is that of acute appendicitis. The diagnosis has never been established before operation. It is worthwhile to note that even at the operative table this condition was not diagnosed, except in one case reported by Tsardakas. In that case, a frozen section was carried out and the surgeon proceeded with a right hemicolectomy.

The diagnosis can be easily established at the operative table if the cecum is involved and F.S. will be carried out, but again as mentioned above, it is a matter of opinion if the origin is from the appendix or the cecum. An interesting finding, in one of the authors cases, was anemia and some R.L.Q. distress three weeks prior to admis-

sion, which led to a barium enema which proved to be negative for the colon. Four weeks later, the patient was admitted for acute appendicitis. At operation, perforation of the appendix was found. Carcinoma of the appendix was not thought of and the diagnosis was established with the pathology report.

In the Hesketh's review, 44% were presented as acute appendicitis, 14% as appendiceal abscess, 11% as "chronic appendicitis", 11% presented as terminal phases with widespread metastasis, and 14% had an incidental appendectomy with subsequent histologic discovery.

### Age and Sex Incidence

The youngest reported is 17 years old. The age group most commonly affected is the 40-65, but no age group seems to be immune. No sex predominance of any significance has been noticed.

### Treatment

When one comes to treatment, it seems that no one has had extensive experience with this disease. Faced with such a growth found at appendectomy, the decision to do a formal right hemicolectomy is founded on basic surgical principles. The consensus of opinion from the literature is that hemicolectomy should be done in all cases. McCollum and others, 1957, were of the opinion that an appendectomy would suffice, but considering the anatomical structure of the organ, as has been mentioned before, there is grave doubt about the efficacy of a simple appendectomy.

### Prognosis

In Hesketh's collected series: 19 cases had simple appendectomy, 14 of these (75%) died of the disease in the first five year period; Thirty-one cases had right hemicolectomy, 10 of these (35%) died within five year period; Nineteen cases (63%) survived five years or more, including two cases (8%) exceeding 10 year survival.



From the more recent reports where right hemicolectomies were performed, one case is free of disease for 10 years, one case six and a half years, one case three and a half years and another two years. No information is available for the remaining 29 cases of the 33 reported since 1963.

It definitely can be said, however, that adenocarcinoma of the appendix is not a low-grade malignancy as it was thought previously. The reports suggest that it behaves as an aggressive cancer similar to any other colonic cancer.

Tranceolomic spread occurs readily and produces peritoneal and visceral cancer which multiply and appear to be lethal before extensive metastasis occur to the liver. Adjacent lymph-nodes are commonly involved and serve as a strong indication for radical surgery, which is best done as a primary procedure.

In any operation of the appendix, the condition should be thought of and F.S.

## Summary and Conclusion

The literature on primary adenocarcinoma of the appendix has been reviewed. It has been found that 104 cases have been reported. Two cases are added thus bringing the number to a total of 106 cases.

Adenocarcinoma of the appendix behaves as an aggressive cancer similar to any other colonic cancer. Frozen sections should be carried out if suspicion of cancer arises and a right hemicolectomy should be done. It is essential to look for a second lesion in the colon and a close follow up is necessary. All the removed appendices should be examined histologically.

## Case Report

CASE 1. J.S., 67 year old W.M. sculptor admitted to the Fairfax Hospital on 5-22-66 with history of acute abdominal pain located mainly in the right abdomen, the onset of which was early in the day

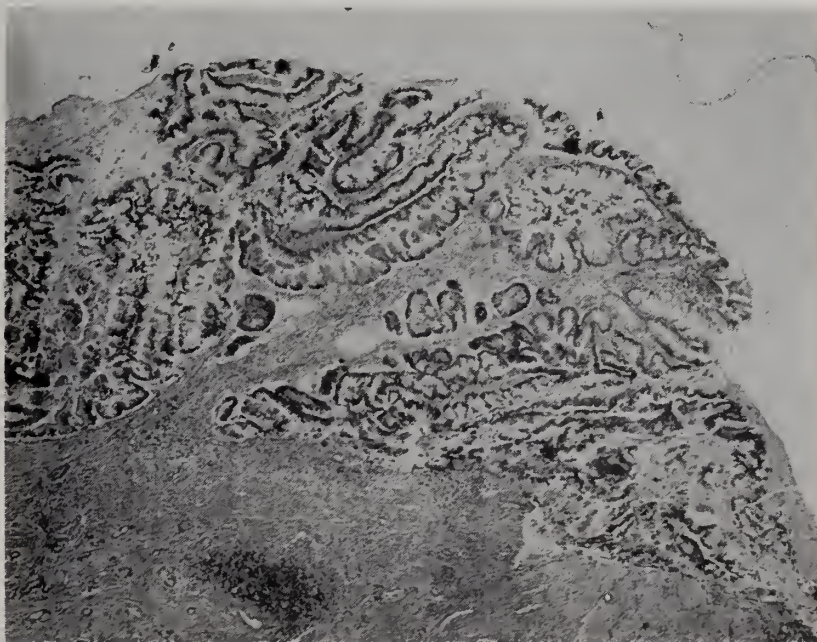


Fig. 1. Section of appendix showing atypical mucosa with superficial invasion. (case 1)

should be carried out if suspicion of cancer arises. It is also essential to look for a second lesion in the colon and a close follow up is necessary. Histologic exam should be carried out on all resected appendices.

of admission. The patient had soreness of the right lower quadrant three days prior to admission. There was history of abdominal distress about three to four weeks prior. His family physician had a barium study

done which revealed no evidence of disease. Blood analysis was also done at that time and revealed anemia. Hgb. 10.4gm., Hct. 31%, R.B.C. 3,400,000.

Examination revealed an acutely ill patient with moderately distended abdomen without peristalsis. There was distinct muscle guarding on the right iliac fossa with rebound tenderness. C.B.C. revealed W.B.C. 8,300, Seg. 72, Bands 3, Lymphocytes 21, Mono. 1, Hgb. 10.0gm., Hct. 33%.

The patient was operated on and through a right paramedian incision an acutely inflamed appendix with perforation was removed.

Histologic examination revealed changes of acute appendicitis and striking atypicalities with invasion of the wall. The diagno-

Upon this admission the Hgb. was 9.8 gm., Hct. 31%, Total Protein 5.8 gm., A/G Ratio 4.3:1, Albumin 4.7, Globulin 1.1.

Histologic study of the specimen revealed no neoplastic lesion of the colon or lymph-nodes. His post-operative course was complicated with evisceration which occurred on the eighth day. It was repaired and, after that, his recovery was without further difficulty. On June 29, 1966, he was discharged in good condition.

CASE 2. L.J., 24 year old C.M. admitted to the Fairfax Hospital on 9-29-65 with a history of acute right lower quadrant pain, which began two days prior to admission and became progressively worse. There was no nausea or vomiting.

The patient had two weeks prior to ad-



Fig. 2. Section from wall of appendix including invasive gland. (case 1)

sis was well differentiated adenocarcinoma of the appendix. The base of the appendix was free of tumor in a distance of at least 2 cm.

He had an uneventful recovery. Upon discharge his Hgb. was 9.3gm. and Hct. 29%.

On 6-13-66 he was re-admitted and after proper preparation a right hemicolectomy with ilio-transverse anastomosis was done.

mission, pain in the right abdomen which lasted one to two days and then subsided. W.B.C. upon admission was 16,200, Seg. 71, Lymphs. 24, Bands 2, Eos. 1, Monos. 1, Hgb. 14.8, Hct. 45%.

On the same day, the patient was operated on and an acutely inflamed appendix was removed. The base of the appendix presented as a hard mass. The cecum also was involved by the same process which was



thought to be inflammatory in nature. Histologic examination revealed changes of acute appendicitis. The base showed loss of usual mucosal pattern and proliferation of hyperplastic and hyperchromic epithelial cells which continued to form glandular structures. Several skip areas appeared to be present in the mucosa. Diagnosis: Adenocarcinoma of appendix and cecum.

On 10-13-65, a right hemicolectomy was done with ilio-transverse anastomosis. A 4.5 cm. fungating tumor was described in the cecum, which was adenocarcinoma. One of six adjacent lymph nodes was involved by tumor.

The patient recovered satisfactorily and was discharged on 10-24-65. The patient has no evidence of metastasis at present.

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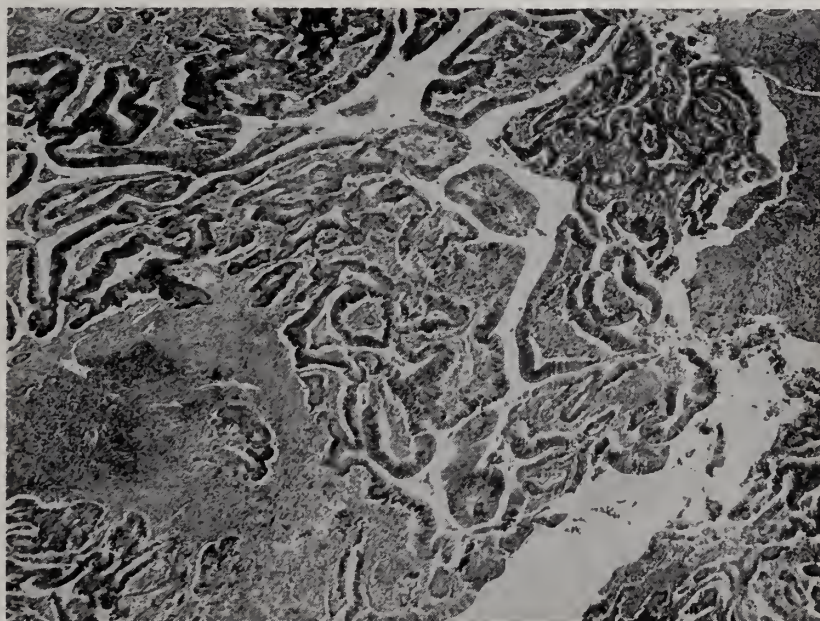


Fig. 3. Section from base of appendix showing malignant epithelium which is extending into wall. (case 2)

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# A Nasty Burn

## A Brief Report of a Laboratory Accident

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*Modern clinical and research laboratories contain hazards for the inexperienced and even the veteran technician. Wearing of contact lenses may even increase injury to the eyes.*

THE INCREASING USE of volatile and often highly flammable chemicals in today's laboratories is only partially reflected by their increasing mention in the literature.<sup>1</sup> The steady growth of research and complex industrial operations can be expected to present ever-increasing potential hazards to personnel involved in these areas. The fact that more frequent injuries do not occur may be a credit to modern laboratory safety. The following case report illustrates the need for such vigilance:

Miss L., a 21 year old recent graduate of a laboratory technician's school, had begun work four weeks previously. Assigned to one of the laboratories in a large research institute, she was given responsibility for a standard laboratory operation, considered a reaction without appreciable risk. This involved adding a dry solid to a volatile mixture of chlorine and methanol.<sup>2</sup>

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The day of the injury, Miss L. mixed the reagents in apparently the standard manner. Suddenly the mixture exploded—as she expressed it later, “in a ball of fire which burned my face.” She immediately dropped the reagents, was given a thorough rinse with cold water over the affected parts of her face, and admitted to the research institute hospital. The burn involved almost the entire facial area, but proved to be only first and second degree in nature; despite initial discomfort and nausea, she was discharged within a few days with subsequent complete healing. She had worn contact lenses during the accident.

### Discussion

The ever-present danger of explosion and fire exists in any laboratory space where combustible chemicals are used. In this injury, the natural history of injury included a mixture of ingredients *beyond* the chemicals involved; the reaction was being carried out in an open system by an inexperienced worker who had just begun to do the experiment on her own. While the laboratory environment was modern and well equipped, no special requirements for work with potentially volatile, explosive agents were stressed in the laboratory. Plastic face shields might have averted the resulting facial injury. In this respect, a recent report<sup>3</sup> cited an industrial accident where 50% caustic solution was blown into the face of an engineer who was also wearing contact lenses. Although his face was bathed immediately, by the time the contact lenses could be removed, his eyes had received serious burns

and visual limitation. The company now bans wearing of contact lenses in hazardous areas. The report further stated that "Contact lenses are contraindicated wherever there are chemical eye hazards or where the air contains foreign material that might work under the lens and damage the cornea."

In the case of the patient reported here, no untoward result of wearing such devices was presented, but with another agent this may well be a hazard. The positive aspects of this injury deserve mention for their preventive importance. The nature of the chemicals was such that the skin was virtually sterilized of its usual flora and almost no infection was noted in convalescence. The patient was a mature person who was able to tolerate a very distressing, uncomfortable wound covering her entire face. The role of contact lenses in the injury extent is unknown, although conventional but less cosmetically pleasing glasses might have offered more protection. The "human" and physical environment in the patient's favor

—prompt, appropriate first aid and hospitalization minimized the effects of a very nasty burn.

### Summary

This has been a report of severe facial burn suffered by an inexperienced technician carrying out a supposedly "safe" chemical reaction completed without incident many times by others in the same laboratory. The role of correct facial protective devices in preventing such injury has been briefly mentioned, and the need for constant re-evaluation of safety techniques, experience and personal habits of laboratory personnel is offered.

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### Volunteer Physicians for Viet Nam

The AMA Volunteer Physicians for Viet Nam program is financed by the United States Agency for International Development (USAID), and administered, under contract, by the American Medical Association. Physicians sent to South Viet Nam under the program serve a 60-day tour of duty at one of 18 provincial civilian hospitals. The volunteer receives only his transportation and an expense allowance of \$10.00 a day; otherwise his services are entirely unpaid.

During the first two years of operations, 294 physicians have departed to serve voluntarily in Viet Nam; this number includes 25 physicians scheduled to depart this month. These volunteers who come from 46 states, the District of Columbia and the Canal Zone, have, over the past two years,

voluntarily provided over 45 man years of medical care to the civilian population of South Viet Nam.

During the first year of operation under the AMA, 175 physicians have served in Viet Nam, an increase of 47% in the number of volunteers over the first year of operations. We can anticipate a comparable increase in requirements during the coming year. For this reason, I am writing to urge continuing support of this program in your state and by your component societies and specialty organizations. We need more applications and particularly from internists, general practitioners, general surgeons, and orthopedic surgeons. (*From Letter by Charles L. Hudson, M.D., Retiring President of the American Medical Association.*)

# *Clinicopathological Conference . . .*

## **Nephrotic Syndrome and Renal Failure**

Prepared and Edited by

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### **CLINICAL DISCUSSANT:**

J. Edwin Wood, III, M.D.  
UVH #55-77-44 Autopsy No. 10740

This conference was held October 1, 1966.

### **Clinical History**

This 44-year old, male school teacher was admitted for the second and final time on May 9, 1966, because of massive edema.

Except for a myocardial infarction in 1963, he had been well until six months previously. Ankle edema appeared at that

heart failure, liver disease, arthritis, or known prior renal disease. There was no evident exposure to nephrotoxic agents, nor known prior streptococcal infection.

Laboratory findings on initial evaluation here in March, 1966, included the excretion of 9.2 Gm. of protein per 24 hours, serum albumin 1.2, globulin 2.2 Gm.%, cholesterol 765 mg.%. The urine sediment showed many hyaline casts, but no cells. The blood urea was 125 mg.% (normal up to 45 mg.%), creatinine 2.0 mg.%, creatinine clearance 58 ml/min. (below normal). Serum calcium was 7.4, phosphate 4.1 mg.%, fasting blood sugar 100, 2-hour p.c. sugar 182 mg.%. An electrocardiogram showed evidence of an old, diaphragmatic infarction, and a GI series showed a deformed duodenal bulb. Hematocrit 40%, WBC 15,400.

A renal arteriogram (see Fig. 1) showed



Fig. 1. A renal arteriogram shows essentially normal renal arteries and enlarged kidneys. In a later film most of the contrast material has left the kidneys; there is



a faint density on the left side which could represent filling of the renal vein on that side.

time without associated symptoms, and proteinuria was found. Cystoscopy and retrograde pyelography were performed at the referring hospital, and were normal. There were no associated symptoms of congestive

kidneys of normal or slightly increased size and no specific, diagnostic abnormality as the cause of the clinical picture. A left renal biopsy showed slight thickening of the glomerular basement membrane only.



The patient was placed on salt restriction and 120 mg. of prednisone every other day. While at home on this program he remained edematous, although somewhat improved initially over his pre-admission status. After about six weeks there he developed anorexia and increasing edema. Upon his second admission he was chronically ill with a pale, puffy face and massive edema up to the buttocks and scrotum. There was dullness at both lung bases. Blood pressure was 160/95. Hematocrit was 34%, later higher after blood transfusions. Urinalysis showed pH 6.0, SG 1.012, 4+ protein, and many waxy, granular casts without cells. Twenty-four hour urinary protein excretion ranged between 25 and 43 grams. The initial blood urea was 75 mg.%, creatinine 1.9 mg.%, and electrolytes were normal. Serum cholesterol was 900 mg.%.

The initial efforts were directed towards diuresis. Prednisone was maintained, and triamterene and hydrochlorothiazide were added. After a week this regimen had been ineffective. At this time spironolactone ("Aldactone A") and daily infusions of salt-poor albumin were given. During this time there was a diuresis reflected in a drop in weight from an initial 74 kg. to 63 kg. After two weeks there had been no significant decrease in proteinuria, and nitrogen mustard was given for immunologic suppression. This was followed by some decrease in white blood cell count; hypogammaglobulinemia was present. Blood urea rose from 75 to 150 mg.%; creatinine to 2.3 mg.%. On May 31st he suddenly developed a right hemiparesis and aphasia. Spinal fluid examination was unremarkable, and the neurologic deficits diminished somewhat concurrent with blood transfusion. Leukopenia persisted. On June 9th he became febrile to 38.6°C and less responsive. Penicillin and streptomycin were given, and methicillin was added after a blood culture grew out staph aureus. He remained comatose and expired four days later.

## Clinical Discussion

*Dr. Edwin Wood, III:* This is a problem of identifying the cause of the nephrotic syndrome in an adult. Massive proteinuria, hypoalbuminemia, and hypercholesterolemia were all present and are the principal features indicated by that term. The usual causes are chronic, presumably post-streptococcal glomerulonephritis, diabetic Kimmelstiel-Wilson disease of the kidney, amyloidosis, occasionally lupus, and rarely a specific agent such as bee sting.

The age, sex, and white blood cell count of 15,400 with ample granulocytes initially are against systemic lupus erythematosus. There was no history of trauma or flank pain to suggest renal vein thrombosis, and the absence of an elevated venous pressure excludes constrictive pericarditis. There was no prior history of streptococcal infection as a cause of acute, post-streptococcal glomerulonephritis. So I would have to summarize the history, and even the physical examination, as giving no useful positive clues to the cause of this man's nephrotic syndrome.

Several interesting items turned up in the laboratory studies, but none which point unequivocally to a single underlying cause. The elevated 2-hour post-prandial blood sugar requires consideration of Kimmelstiel-Wilson's disease, better referred to as diabetic glomerulosclerosis. Proteinuria and the nodular lesions in the glomeruli have been described not only in individuals with mild carbohydrate intolerance, but also in relatives of diabetics with no carbohydrate abnormality under ordinary testing. Renal excretory function eventually became impaired, and hypocalcemia developed, probably secondary to reduced binding from marked hypoproteinemia. We should look for the old, diaphragmatic myocardial infarction at autopsy.

The most helpful study which can be made in instances of nephrotic syndrome is renal biopsy, and fortunately that was done. With the conventional microscope,

one hopes to find the specific hallmarks of disorders such as amyloid, diabetes, or chronic glomerulonephritis.

The "minimal thickening of the basement membrane" described in this case was presumably interpreted as indicating chronic glomerulonephritis, particularly in view of the subsequent treatment. There is something troublesome about that conclusion. There is usually a relationship between the degree of glomerular involvement and the prognosis of glomerulonephritis, and with the amount of globulin cleared by the glomeruli as well. With minimal membrane thickening and slight globulin loss, there is generally an excellent outlook; with proliferative changes histologically and moderate globulin loss the prospects are poor. This man had only minimal histologic changes, yet he experienced a more rapid course of renal failure than would be expected with chronic nephritis of that degree. We do not have a fractionation of the urine proteins in order to help in determining whether or not this course could have been predicted. In any event, I emphasize that this lack of appropriately severe glomerular damage is an indication of some primary diagnosis other than glomerulo-nephritis. A number of other causes of the nephrotic syndrome already noted are ruled out by the biopsy findings. This would be a good point to examine the x-rays.

*Dr. Keats:* The chest x-ray confirmed the description of dullness at both lung bases by demonstrating bilateral pleural effusion. Otherwise it was not remarkable. An injection of contrast material into the aorta at the level of the renal arteries showed good filling of the arterial circulation of the kidneys and no abnormalities other than an extra renal artery on the right side. The "nephrographic phase" of this study shows that overall kidney size is normal or large, not contracted.

*Dr. Wood:* Can you see the renal veins?

*Dr. Keats:* It is difficult on these films to

be absolutely certain, but there is probably a density representing the left renal vein on this film (see Fig. 1). The contrast material appears to clear from the renal parenchyma on both sides at a relatively normal rate.

*Dr. Wood:* You don't sound enthusiastic about the diagnosis that I want to make. There is relatively little else in this story to help with the diagnosis of the cause of this renal lesion. His treatment consisted successively but not successfully of the usual series of diuretics, steroids, and eventually an immuno-suppressive drug. The nitrogen mustard must have been given with the thought that this disease was due to a disorder similar to glomerulonephritis or lupus erythematosus. Also, it is interesting to speculate on why his serum albumin became so low. The normal capacity of the liver to produce albumin is in the range of 50 Gm/day, and his urine loss was not that great. Perhaps there was gastrointestinal loss of albumin due to mucosal edema.

In any event, a diuresis had occurred when he suddenly developed a cerebral vascular accident. This thrombosis might have been precipitated by orthostatic hypotension, resulting from a low plasma volume. We are not told whether the blood pressure dropped markedly in the upright position. It apparently did improve with blood replacement. We know he has had coronary atherosclerosis from the previous history and electrocardiogram. The cause of the low serum gamma globulin is not certain. Ordinarily nitrogen mustard does not lower this, and there may have been marked urinary losses of this protein fraction as well as of albumin.

The final complication of infection in this man is not too surprising under the circumstances. It appears to have been pulmonary, in the blood stream, and possibly meningeal. The spinal fluid-protein was not high, but I wonder if a very low serum protein level couldn't alter the expected pattern there. We would need a simulta-



neous blood sugar to interpret the spinal fluid sugar level.

This boils down then to a problem of severe, nephrotic syndrome in which the renal biopsy showed only a non-specific abnormality of mild degree. The biopsy would have been expected to show identifiable lesions of amyloidosis, diabetic glomerulosclerosis, or lupus erythematosus, if any of these had been present. This leaves us with chronic glomerulonephritis or renal vein thrombosis. Either of these may produce variable, relatively non-specific histologic pictures. The severe proteinuria and later impairment of renal excretory function were too extensive to be consistent with the mild glomerular abnormalities if this is glomerulonephritis. The renal arteriogram at least does not show completely satisfactory opacification of the right renal vein, and occlusion of only one vein may produce the nephrotic syndrome. Accordingly, I believe that the basic process in the kidneys was renal vein thrombosis.

*Dr. Crispell:* What happens to blood pressure in renal vein thrombosis?

*Dr. Wood:* It may be moderately elevated, but in general it is not accompanied by severe hypertension.

*A physician:* It seems to me that the amount of proteinuria and edema certainly do justify the description of severe nephrotic syndrome, but the impairment of excretory function otherwise was not so marked. This man died of a complication of treatment rather than from uremia. I wonder if this weakens Dr. Wood's argument against glomerulonephritis. I also wonder what the cause of renal vein thrombosis could be in this case.

*Dr. Wood:* Most cases of renal vein thrombosis are unexplained as to specific causative agents, just as is true of other forms of thrombophlebitis. What were the student diagnoses?

*Dr. Edmondson* (medical resident): As

has been indicated, the clinical diagnosis during this man's life was chronic glomerulonephritis. Possibly because this case is being discussed at this conference, two students felt this was amyloidosis, two were for Kimmelstiel-Wilson disease, and nine agreed with Dr. Wood in choosing renal vein thrombosis.

#### CLINICAL DIAGNOSIS:

1. *Nephrotic syndrome due to chronic glomerulonephritis.*
2. *Terminal septicemia, probably related to steroid and immunosuppressive treatment.*

#### DR. WOOD'S DIAGNOSIS:

1. *Nephrotic syndrome due to renal vein thrombosis.*
2. *Terminal septicemia.*

#### Pathological Discussion

*Dr. Eugene Foster:* The disease process of the longest duration was atherosclerosis, most severe in the coronary arteries. There was an old organized thrombus of the right coronary artery with a corresponding old, healed infarct of the posterolateral left ventricle and posterior interventricular septum. This must be the lesion which was clinically diagnosed in 1963. There was also a recent thrombus of the anterior descending branch of the left coronary artery and an infarct in the anterior wall of the left ventricle which was no more than a week old.

Of greatest interest was the total occlusion of both renal veins by old, organized partly recanalized thrombi. On the right the thrombus actually extended for a short distance into the inferior vena cava, but the cava itself was not obstructed. The considerable age of the thrombi can be appreciated from the photograph which shows the marked degree of recanalization (Fig. 2). Small tributaries of both renal veins were also occluded by recanalized thrombi. The kidneys themselves were greatly enlarged



to 250 grams each. Their parenchyma was pale and swollen. Several recent infarcts were present and there were multiple petechiae. I believe that the infarcts and petechiae are not directly related to the renal vein thrombosis, and we will come to the process that was responsible for them

them at all. By the time the patient died the changes became much more obvious. In the autopsy material we see glomerular basement membrane thickening with no difficulty and can also find occasional glomeruli with small capsular adhesions (Fig. 3). Thus, we have evidence of progressive

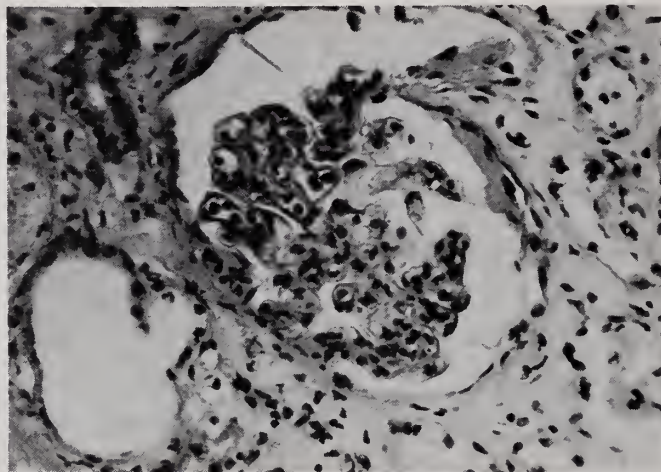


Fig. 2. Kidney at autopsy. Note thickened glomerular basement membranes and capsular adhesions. (250X).

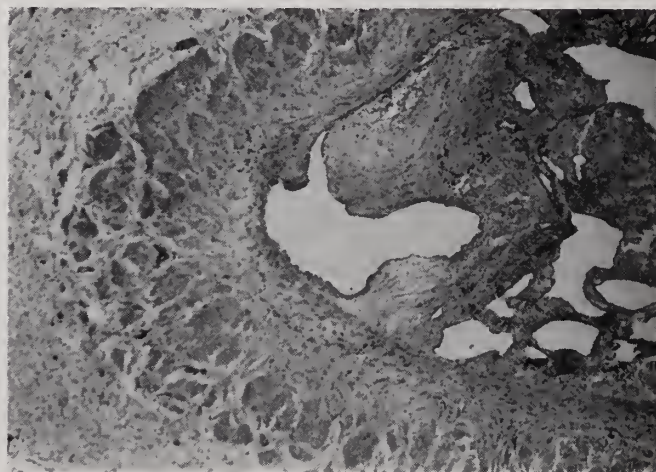


Fig. 3. Old recanalized thrombus of renal vein (40X).

later. The microscopic findings in the glomeruli are of the greatest interest. Before describing them, I would like to review the findings in the renal biopsy performed three months before the patient's death. As we stated at that time, the only significant abnormality is slight thickening of the glomerular basement membranes. The changes are so slight that if they were any milder we would not be able to recognize

glomerular change in kidneys with old renal vein thrombosis, and it would not be unreasonable to say that increased venous pressure secondary to the venous thrombosis caused the nephrotic syndrome and the associated anatomical changes in the glomeruli. Dr. Benjamin Sturgill, however, has provided us with some provocative findings. Using a fluorescent antibody technic on frozen kidney tissue he was able to demon-

strate localization of gamma globulin in the glomerular basement membranes throughout the specimen (Fig. 4). We don't know



Fig. 4. Fluorescent antibody preparation of kidney showing brightly stained deposits of gamma globulin along glomerular basement membrane. Frozen section of kidney was reacted with a highly specific fluorescein-labeled anti-human gamma globulin preparation (360X).

exactly what this means but it certainly raises the possibility that an immune reaction played some part in the genesis of the glomerular lesion. One could dismiss the presence of the gamma globulin in the glomeruli by saying that it was simply the result of leakage of serum globulin because of increased pressure in the glomerular capillaries consequent to the renal vein thrombosis. There are reasons to believe, however, that simple mechanical factors are not a sufficient explanation for the occurrence of the nephrotic syndrome in renal vein thrombosis. For one thing, it has not been possible to reproduce the syndrome in animals simply by obstructing a renal vein unilaterally. Either bilateral obstruction or the removal of one kidney following the obstruction of the other is necessary.<sup>1</sup> Why this should be so is not known.

A possible mechanism for nephrotic syndrome following renal vein thrombosis is suggested by the findings in the present case. One can speculate that minor damage to the glomerular capillaries initiated by

renal vein thrombosis might lead to an immune reaction which plays a role in further glomerular damage and leads to gamma globulin deposition in the glomeruli. The indication that we are probably dealing with some sort of immune reaction in this case is the presence of gamma globulin in the alveolar septa of the lungs. The immunologic cross-reactivity of glomerular basement membranes and alveolar membrane has been demonstrated.<sup>2</sup> The only other case in which Dr. Sturgill has demonstrated gamma globulin deposits of this kind in the alveoli was in a case of Goodpasture's Syndrome.<sup>3</sup> In the lungs in the present case, there is thickening of alveolar septa and intraalveolar hemorrhage reminiscent of what was seen in that case, although of much milder degree (Fig. 5). Another way that the findings in the present case could be interpreted would be to say that it is simply a case of nephrotic syndrome due to subacute glomerulonephritis and that the renal vein thrombosis is a secondary phenomenon. I think that this is less likely.

Whatever the mechanism underlying his

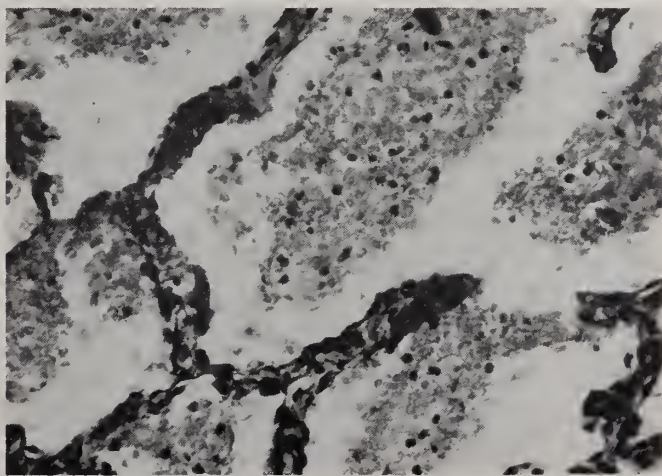


Fig. 5. Lung showing thickened alveolar septa and intraalveolar hemorrhage (250X).

nephrotic syndrome, the patient had severe disease and suffered many complications. He had 2,600 ml. of ascitic fluid, almost 1,000 ml. of fluid in each pleural cavity, and edema of his lower extremities. The adrenal glands were markedly atrophic, presumably



as a result of the steroid therapy. Possibly also a complication of therapy was bacterial endocarditis of the mitral valve, no doubt due to the *Staph. aureus* that was cultured from the blood before the patient died. This gave rise to microabscesses in the kidneys, heart and brain and recent infarcts in the kidneys, spleen and brain. Another severe, late complication was the presence of acute peptic ulcers in both the stomach and the duodenum. The gastric ulcer was about 1.5 cm. in diameter and only 2 or 3 mm. deep. The duodenal ulcer, however, was about 3 cm. across and had penetrated into the head of the pancreas.

In addition to old and recent myocardial infarcts, then, this patient had bilateral renal vein thrombosis which was probably causally related to his nephrotic syndrome. Terminally he developed bacterial endocarditis and peptic ulcers of the stomach and duodenum.

*Dr. Westervelt:* We were concerned about the cause of the nephrotic syndrome in this man even after the biopsy. Without getting too involved in nephrologic semantics, an important distinction must be made between chronic glomerulonephritis, which was *not* our biopsy diagnosis, and "minimal glomerular change" or "nil-change" glomerulopathy, in which flagrant nephrotic syndrome may accompany virtually normal light-microscopic findings. While the latter permits some therapeutic optimism, perhaps one-third of such adults will not improve significantly with glucocorticoid therapy.

In view of the demonstration of globulin by the fluorescent method in these glomeruli, I am not sure that this is simply an example of nephrotic syndrome due to renal vein thrombosis. Recently Dossetor and his associates (Free Communication, Third International Conference of Nephrology) pointed to the occurrence of hypercoagulability in patients with nephrotic syndrome,

leading to thromboembolic phenomena, including renal vein thrombosis. The biopsy, post-mortem and other findings lead me to suggest that in this instance the nephrotic syndrome was due to primary glomerular disease, and renal vein thrombosis was an incidental, late development.

*Dr. Keats:* The relatively good clearance of contrast material from the kidneys at the time of the contrast studies, which were three months before his death, would be in favor of that idea.

*Dr. Foster:* One of the reasons that we do not think it likely that this case is just glomerulonephritis with secondary renal vein thrombosis is that after at least four months of nephrotic syndrome, the glomerular changes were so slight. Another reason to think that renal vein thrombosis really may cause nephrotic syndrome, whatever the mechanisms, is that patients have been cured by re-establishment of normal venous drainage.<sup>4</sup>

#### ANATOMIC DIAGNOSIS:

1. *Old, organized bilateral renal vein thrombosis with chronic nephrosis.*
2. *Coronary atherosclerosis with old and recent myocardial infarcts.*
3. *Bacterial endocarditis of mitral valve.*
4. *Peptic ulcers of stomach and duodenum.*

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MACK I. SHANHOLTZ, M.D.

State Health Commissioner of Virginia

## Revised Venereal Disease Treatment Schedule

In conformity with the principle of quality control and good practice, the State Department of Health has adopted the fol-

lowing revised Venereal Disease Treatment Schedule (May 1967). This schedule conforms with the latest recommendations of recognized authorities in the field of venereal disease control.

### VIRGINIA STATE DEPARTMENT OF HEALTH BUREAU OF CHRONIC DISEASE CONTROL—TREATMENT SCHEDULE

DISEASE	DIAGNOSIS	TREATMENT	REMARKS
SYPHILIS Primary	Chancre, darkfield positive or if negative, strong presumptive evidence, clinical or epidemiologic. Reactive or nonreactive serology	Benzathine penicillin G: 2,400,000 units (8cc) at one time.	In cases where patient is resistant or sensitive to penicillin, antibiotics such as tetracycline, erythromycin or oxytetracycline. 30-40 grams may be substituted given in dosage of 2 grams daily.
Secondary	Skin rash, darkfield positive or if negative, strong presumptive evidence, clinical or epidemiologic. Reactive serology	Note: Any volume over 4cc best be given into more than one site.	In case of an immediate penicillin reaction adrenalin 1:1000 is recommended, .5-1.0cc subcut. or i.v.; repeat if necessary oxygen if available; i.m. or i.v. steroid (100 mgm solu-cortef), benadryl i.v. 50 mgm.
Early Latent	No clinical symptoms. Infected less than 2 years. Reactive serology, nonreactive spinal		Syphilis in pregnancy may be treated at any time, but it is advisable to begin treatment prior to the 4th or 5th month.
Late Latent	No clinical symptoms. Infected more than 2 years. Reactive serology, nonreactive spinal		
Congenital Early	Snuffles, rhagades, etc. Reactive serology	Benzathine penicillin G: 1,200,000 units, in divided doses. If over age 2 repeat in 7 days.	Do not use cord serology for diagnosis.
Late	Hutchinson's teeth Interstitial Keratitis, Reactive serology	Benzathine penicillin G: 2,400,000 units (8cc). Symptomatic—benzathine penicillin 2,400,000 (8cc) units repeated in 7-10 days.	0.25-1% Hydrocortisone instilled in the eye is frequently of help during active Keratitis.
Cardiovascular	Aortitis, aortic regurgitation, aneurysm, myocarditis	Benzathine penicillin G: 2,400,000 units (8cc) followed by 6-8 doses of 1,200,000 units (4cc) twice weekly for a total of 9.6 to 12 million units.	Treat on individual basis, schedule flexible depending on cardiac status. Note: This schedule gives maximum benefit of treatment. Further treatment ineffective.
Central N. S.	Paresis, tabes. Usually reactive spinal fluid.	As for cardiovascular syphilis	Treat symptomatic cases on individual basis
Bone, Visceral and Skin	Gummas Usually reactive serology	Benzathine penicillin G: 2,400,000 units (8cc) repeated in 1 week.	
GONORRHEA Male	Pain, burning on urination, urethral discharge, positive smear and/or culture.	Aqueous suspension penicillin G: 2.4 to 4.8 million units at one time (4-cc of 600,000 units per cc)	Cases not responding to 4,800,000 units. Aqueous suspension penicillin G should receive a "mycin" such as tetracycline in doses of 1 gram every 4 hours for 4-6 grams.
Female	Little discomfort. Positive culture, or fluorescent test.	Aqueous suspension penicillin G: 4.8 million units at one time (4cc in 2 sites)	
CHANCROID	Clinical appearance, darkfield and STS, to exclude syphilis	Triple sulfa or sulfadiazine 1 gram 4 times a day for 10 days (orally)	Chlortetracycline 0.5 grams orally 4 times a day for 7-14 days is also effective.
GRANULOMA INGUINALE	Donovan bodies in smear	Tetracycline 0.5 grams 4 times a day for 10 days (orally)	Watch for possible superimposed carcinoma
LYMPHOGRANULOMA VENEREUM	Clinical appearance, positive Frei skin test	Triple sulfa or sulfadiazine 1 gram 4 times a day for 15-20 days (orally) or tetracycline 0.5 gram 4 times a day for 15-20 days (orally).	

DONALD J. STEDMAN

## **Some Factors Affecting the Mental Health of Children**

I agree with Elliot Aronson when he says that most parents are concerned, in raising their children, with two basic goals: preventing them from performing destructive, dangerous or undesirable acts and instilling in them a set of values that will enable them to live in society without breaking too many laws or cultural mores. However, I would add an additional goal of developing in children the highest standard of performance possible in both educational achievement and social adjustment that parents can get their children to attain. The development of *competence*.

These tend to be the major demands on children today throughout the preschool, elementary school and adolescent years.

I say "today", not because these goals have not been emphasized in the past but because an expanding population, increasingly limited educational resources and the increased demand for formal education to be successful "today" have increased the stress and strain around these goals.

Parents, in general, are much more aware of the far reaching effects of poor school achievement on adult college and job opportunities. And they are also aware that behavior patterns that are not acceptable can lead their child to be isolated from the pack and may prevent him from being "acceptable" in later years as well as now. This

may lead many parents to cover psychological symptoms for as long as possible.

On the other hand these stresses have become so great in many cases as to yield precisely that lack of that performance or achievement that parents are seeking to obtain. Parents know this too and they find themselves in a bind as to what to do and how far to go in their attempts to produce the "complete all American child" who will honor them in their old age and be off their payroll at least by the age of 25.

If you focus in on the major battleground of the child who survives his pre-school years you recognize that the child's major job in our culture is to go to school and do well. If he doesn't do well he gets "laid-off" from his job, demoted or fired. Many times he may just quit and drop out. These are not usually just parent determined options but arise, as well, from the administrative needs of the schools and the inability of our current educational program to be sufficiently flexible to meet the needs of the child who requires a qualitatively different educational experience. It is oftentimes their inability to adjust to the child's needs that exaggerates the child's behavior pattern or deficiency and leads to a request that he leave his job or more often that he be shunted aside to wait out his time to "graduation". Most educational administrators have no other recourse. Parents are often willing to "cover" the problem so long as the child can remain in school and things continue to hang together in reasonable fashion. Teachers are not sufficiently well trained in child development and personality formation to recognize early symptoms of difficulty. Where they are skilled in this identification they are unsure of their responsibility to counsel parents directly or attempt to bring the child to the parent's

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attention at all. Limited availability *and* willingness on the part of many mental health professionals, in a position to help, makes the problem a greater one. At a time when child development, mental health and childhood education should be actively welding together they are, instead, drifting apart.

Now, while these may appear to be economic, or professional, or administrative or training problems, they also constitute factors affecting the mental health of children. The one caught in the middle is the child.

So long as we fail to develop teacher training and education into a meaningful experience for our children we shall maintain these stresses and these factors. Until this country makes up its mind that it really does want to do something for its children besides pass on the culture in little brick boxes, then and only then are we going to see the problem reduced.

We continue to talk one game and play another. We indicate that individual differences are important, that creativity is essential and that intellectual risk-taking is the sign of intelligence and ego-strength. Yet we standardize and manage our children in educational programs that stifle and negatively reward the creative process, the development of identity and the factors that we know lead to productive man- and womanhood. It is this kind of dissonance between what we say and what we do that makes it extremely difficult to get at the business of helping parents raise their children in a busy and stressful world.

There is also dissonance between what parents say and what they do. By the time one is an adult he has learned to play both roles, not without some uneasiness, but nevertheless effectively. This makes development difficult; especially the development of values and an acceptable coping style. Children learn by doing what they see not by doing what we say. On the package of a leading brand of cigarettes there are two inscriptions. The one on the front says "richly rewarding, uncommonly smooth."

On the side is printed "Caution: cigarette smoking may be hazardous to your health." Adults have learned to tolerate this kind of dissonance. Children find it an obstacle to learning, to psychological growth and to the understanding and acceptance of productive patterns of behavior. If children are worth our consideration we should act as if we mean it. While we labor to develop ways to prevent and treat emotional disturbance in children we deny them access to school and community mental health consultation under the guise of protection against invasion of privacy. The mentality of the anti-vaccination group has successfully withheld the necessary guidance of social, psychological and psychiatric services from too many children and parents in this country. No economic consideration is defensible as a protest against the emphatic development of *mental* health programs in our communities. No justification for legal or professional barriers is acceptable for the maintenance in this society of the large numbers of mentally ill and mentally retarded we find in our midst.

In my home state it took 30 years and an overwhelming amount of energy to learn about, legislate and institute a two-cent screening test for all newborn infants that allows effective prevention of a seriously mentally retarding body chemistry disorder. The dissonance between what we say and what we do is perplexing. We continue to deny children admission to residential care until they are six. By that time the most precious years for treatment are lost and the family demoralized. We fail to stimulate our students to move into community and school work. Few educators recognize and take advantage of research in ego process enhancement through curriculum development. But fewer mental health workers would recognize a kindergarten program when they saw one.

The quality and depth of the interchange between mental health and education is poor and shallow. We are waiting each other out. Meanwhile, programs from *Head-*



start to Junior High Science for the gifted, except in rare cases, lack the sophistication and attention of educators with training and experience in child development.

We are engaged in a headlong drive to develop enrichment programs for those culturally and often emotionally unready for the schools we have. Yet, very few of these programs plan for the potentially unsettling conflict that may arise in a child when he is placed in a position of choosing between the "new" mother in the program and the "old" one at home.

Research in Headstart Programs, reported last month at the Orthopsychiatry meetings by Mackie, Maxwell and Rafferty at the Psychiatric Institute at the University of Maryland and by Garwood and Angenbraun at the Center for Early Education in Los Angeles, pinpoints the fact that family integrity and the adult models around children are as crucial, if not more so, than the enrichment setting, its materials and its curriculum. Yet education is failing, without our help, to take advantage of an opportunity to use such information in developing preschool programs.

Mental Health has not yet adequately communicated to education that many sources of difficulty are within the remedial and therapeutic grasp of quality school programs—when a child *cannot* meet the expectations of the school, as in mental retardation, he needs help—when he *does not* meet the expectations of the school as in underachievement and deviant behavior, he needs help—when a family *is inadequate* to the child, as in deprivation, rejection, physical or psychological abuse, he needs help—when he is chronically ill, he needs help. And he needs help in school. When he does not get it, the inadequate educational process is a factor affecting the mental health of children.

The educator does not willingly accept these situations. Teachers teach with one hand tied behind their backs. They are iso-

lated, as no other professional is, in their daily quest to bring maturity to children. They obtain little feedback on how they are doing. The coach can at least review his game films. The teacher settles for what gains she can make by introspection and an occasional visitor.

If we applied what we know *now* about prevention, therapeutic education, remedial education and short term treatment in educational settings (such as Project Re Ed) then we can eliminate at least 50% of all learning disabilities and adjustment problems that come to us because of unnecessary delay and lack of early intervention into problems. We are not applying what we know. And perhaps this is a more accurate definition of what we mean when we talk about cultural deprivation.

We could do this by lifting from suburbia the special skills and talents marshaled around their children and superimpose them on *all* of America's schools.

While the President seeks an Alliance for Progress in Central and South America, we had better be seeking an amalgamation of health and education at home. We had better be seeing to it that teachers receive the better training they ask for and that early identification and special education programs be developed and staffed to meet the needs of parents and children whose numbers have overrun the capabilities of the clinic system, we had better expand and improve our mental health training facilities to include knowledge of the educational process as it is now and as it soon will have to be. These are factors that affect the mental health of children. Certainly, they are not the kind we usually face or deal with but are no less crucial in the long run in dealing with the problems of parents and children of today who will in turn expand and improve the programs of tomorrow.

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*Editor's Note:* Resources of this article may be obtained from the author.

## **Different Excretion Patterns of Acquired Porphyrria**

Most porphyrins are metabolic by-products originating during the course of heme biosynthesis. A possible exception to this may be the formation of protoporphyrin of the isomer Type III, which is the immediate precursor of heme. Porphyrins neither possess an apparent physiological function nor do they play a role as metabolic intermediates. Rather, they constitute a group of pigments that have escaped from the biosynthetic path during heme formation by irreversible oxidation of the corresponding reduced porphyrinogens. The latter, with the configuration of the isomer Type III, are the true metabolic intermediates in heme biosynthesis, while the formation of the isomer Type I is believed to represent a physiogenetic remnant of a primitive phase of development.

The porphyrins exist in nature in both a free and a combined state. Acetate transformed into succinate, via the tricarboxylic acid cycle, gives rise, in the presence of  $Mg^{++}$ , ATP, and Coenzyme A (CoA), to active succinyl-CoA. The activated form of succinate condenses with pyridoxal phosphate glycine-enzyme complex (Glycine P-E) to form delta-aminolevulinic acid ( $\delta$ -ALA).

Two molecules of delta-aminolevulinic acid, in the presence of glutathione and an enzyme delta-aminolevulinic acid dehydrase ( $\delta$ -ALA-DH), condense to form a monopyrrole, porphobilinogen. In the next step, four molecules of porphobilinogen condense to form the tetrapyrrolic structure (uroporphyrinogen). It is now recognized that uroporphyrinogen III (reduced uroporphyrin) is the compound which is converted to coproporphyrinogen by the enzyme uroporphyrinogen decarboxylase (UD), uroporphyrin III being only a by-product.

Coproporphyrinogen III is next converted to protoporphyrin III. Coproporphyrin III is a by-product of this reaction. Protoporphyrin III is then converted to a hemoglobin in the presence of iron, glutathione, globin, and an enzyme, heme synthetase (HS). Heme synthesis appears to be particularly active in the erythroid elements of the bone marrow and in the liver suggesting that these cells may contribute a proportionally large fraction of the porphyrins that normally are eliminated in urine and bile. Porphyrins are tetrapyrroles found in nature or prepared synthetically only when the eight hydrogen atoms have been replaced by certain prosthetic groups, namely: methyl ( $-CH_3$ ), vinyl ( $-CH=CH_2$ ), acetic ( $-CH_2COOH$ ) or propionic acid ( $-CH_2CH_2COOH$ ). The last two of which, it will be noted, contain carboxyl groups. For example, protoporphyrin in hemoglobin has only two carboxyl groups. Porphyrins with more than four carboxyl groups, including uroporphyrin, are predominantly excreted in urine, while coproporphyrin possessing four carboxyl groups appears both in urine and bile, and protoporphyrin is eliminated exclusively via the biliary tract. In addition, normal urine also contains small amounts of the metabolic intermediates delta-aminolevulinic acid, porphobilinogen, and porphyrinogens.

The amount of porphyrins excreted by the body is small and occurs mainly in the form of copro-, uro-, or protoporphyrin. Coproporphyrin is normally the predominant porphyrin in urine and feces.

Urinary coproporphyrin (UCP) excretion in adult humans of both sexes is 60-280  $\mu$ gm/24 hrs urine specimen. The values for males are distinctly higher than females. Approximately one-half of the coproporphyrin in freshly voided urine is excreted as a nonfluorescent precursor compound which is convertible to the fluorescent copropor-



phyrin by air. Type III isomer accounts for slightly more than 50 per cent of the total coproporphyrin in normal urine. In childhood, the proportion is distinctly increased to 80-90 per cent.

Uroporphyrin is regularly demonstrable in extremely small amounts in urine in a range of 15-30  $\mu\text{gm}/24$  hrs.

The major portion of coproporphyrin is excreted in the feces where it is the predominant porphyrin. The normal range of values in the feces is 150-400  $\mu\text{gm}$  per day. This is chiefly Type I isomer.

Protoporphyrin is regularly found in the feces and very small amounts are often demonstrable in the bile. It is probable that the majority of the fecal protoporphyrin under ordinary circumstances is exogenous, derived principally from the hemoglobin of meat in the diet. Blood in the intestinal tract is generally productive of some deuteroporphyrin, in addition to protoporphyrin. This is derived, however, from primary bacterial reduction of hematin to form deuterohematin which after splitting off iron, results in the formation of free deuteroporphyrin.

The condition known as porphyria is a disorder of pyrrole metabolism. Porphyrrias may be classified as hereditary or acquired; the distinction between acquired porphyria and the constitutional form being to some degree arbitrary.

Porphyria erythropoietica is hereditary in nature. Porphyria hepatica is associated with liver disease but appears also to have some hereditary elements.

Porphyria cutanea tarda is associated usually with chronic alcoholism; however, most chronic alcoholics do not develop porphyria. Also, it is clear that most patients with hepatoma do not present evidence of porphyria, either latent or manifest. Thus, it appears that patients with chronic alcoholism, carcinomatosis, or reticuloendotheliosis who do manifest porphyria, perhaps have some constitutional predisposing trait. An undoubted example of acquired por-

phyria was observed recently in Turkey. The patient had ingested hexachlorbenzene over a considerable period of time and developed manifest cutaneous porphyria, hirsutism and red urine. This was evidently hepatic porphyria since there was evidence of liver injury and increased liver cell porphyrin content.

In acquired porphyria, the principal fractions excreted are porphyrins formed by the oxidation of uroporphyrinogen, the various substrates of uroporphyrinogen decarboxylase forming porphyrins with 7, 6 or 5 carboxyl groups, and porphyrins formed from coproporphyrinogen. The excretion of dicarboxylic porphyrin is probably normal. With the exception of uro (6% isomer 1), all of the porphyrins excreted in abnormal amounts have belonged to the physiological Type III. For example, in cases that were reported by Sweeney in South Africa, the urine porphyrin excreted by two patients with acquired porphyria showed a greater excretion of uro than coproporphyrin.

Although in acquired porphyria the concentration of total ether-soluble porphyrin in the feces is within normal limits or only moderately elevated, normal amounts of porphyrin with 5-8 carboxyl groups are found. Feces from normal persons contains only trace amounts of these highly carboxylated porphyrins. The levels of fecal porphyrin in two cases having acquired porphyria that were studied by Sweeney revealed that the concentration of 7-carboxyl porphyrin usually exceeds that of 8-carboxyl porphyrin, while in the urine the reverse is found.

Fecal coproporphyrin consists of 75-85% isomer III. Uroporphyrin recovered from the urine has been found to be about 60% isomer I, but other porphyrins in the urine with 7, 6, 5 and 4 carboxyl groups have been predominantly Type III isomers.

### Summary

The mechanism whereby porphyrin pigments (tetrapyrroles) are formed as by-



products of heme synthesis is discussed. Uroporphyrin, protoporphyrin and coproporphyrin are the main porphyrins formed and at levels produced normally do not constitute any pathological state. When there is increased formation such as is found in either hereditary or acquired disorders of pyrrole metabolism, excretion products are increased. The nature of the patterns of excretion in disease is reviewed with specific examples being cited.

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### Beatniks: Up, Down and Off

Not all beatniks are bad, says a psychiatrist in an American Medical Association publication. In fact, beatnikism may be just another way for a teenager to find groups with similar, sympathetic interests on his way to adulthood.

Writing in the March issue of the Archives of General Psychiatry, Jules Masserman, M.D., classifies beatniks into three groups:

**Up-Beatniks**—The best of the lot, says Dr. Masserman, who is professor of psychiatry at Northwestern University, Evanston, Ill. Even with their occasional beards, tresses, play-readings, placards, proclamations, and protest marches, they are "Basically earnest, energetic, intelligent, and well intentioned." They are a help "in prodding us oldsters to review our smug hypocrisies and revise our medieval customs and conduct."

**Down-Beatniks**—Articulate in condemning the inequalities and injustices of society, often with some courage and justification. They are strident and obnoxious in speech and manner, but the outlook for their improvement is often favorable.

"With further maturity and increasing wisdom, most of them become good citizens, competent parents and sometimes even staunch Republicans."

**The Off-Beatniks**—These are the more seriously erratic, troubled, and troublesome misfits. Despite their pretensions, they contribute little that is truly constructive or original to our culture.

What makes a beatnik? The teenager is looking for "identity" in a world of great complexity.

"The late adolescent may spread himself thin trying to be simultaneously a dutiful child, a brilliant scholar, a winning athlete, a popular leader, a potent lover, a seductive nymph, a cynical sophisticate and a dozen other incompatible alter egos."

Most youngsters seek status in groups offering support, with certain patterns of dress, modes of speech, and stereotyped musical tastes. Most such cliques are harmless and may even be beneficial as interim experiences.

"The dividing line is this: When an adolescent becomes so immersed in extracurricular activities as to neglect his education, physical health and broader social development, or when he advocates 'sports' that endanger others, such as drag racing, or when he promotes public obscenity, sexual arrogance and physical violence, or experiments with excessive amounts of alcohol or drugs, then therapy is necessary."

## *The President's Page . . . .*

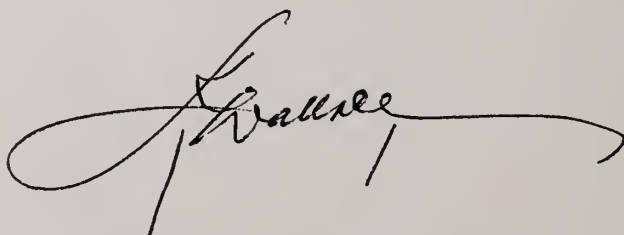
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**W**E HAVE JUST RETURNED from the A.M.A. meeting. Two things were quite shocking: namely, it was announced by many that more interest had been displayed regarding the disability insurance program than concerning Medicare; and secondly, even among the delegates and elected officers, the scarcity of A.M.P.A.C. buttons was appalling.

Incidentally, while in Atlantic City several petitions and resolutions were received by your delegation, too late for action unless declared emergency measures. This to us points out the added advantage of early caucusing the delegations in order that your wishes to Council and A.M.A. representatives can be processed and acted on in an orderly manner. An uninstructed delegate is prone to inadvertent errors of commission.

At long last a policy has been established on the national level regarding abortion laws. It will make our task much easier. Our coming meeting regarding this subject with interested and affected groups has a much brighter outlook from the point of view of your State organization, for the thinking has been quite tangential and individualistic.

We are very sorrowed at the untimely demise of Dr. Tyree Finch. Here has been one who could be properly labelled "truly a worker in the vineyard". In addition to long years as a Councilor and officer in our Society his has been the task of handling the reciprocity program for the State Board of Medical Examiners. We may not see his like again.

A handwritten signature in cursive script, reading "K. K. Wallace". The signature is fluid and elegant, with a long horizontal flourish extending to the right.

K. K. WALLACE, M.D.  
*President, The Medical Society of Virginia*

## Mr. Cardwell's New Duties

ON JULY 1, the Medical College of Virginia announced that C. P. Cardwell, Jr., director of college hospitals since 1947, would retire in favor of William F. Morrison, Jr., who became associate director in 1965, after serving in the same capacity at the Church Home and Infirmary in Baltimore. Mr. Cardwell has been appointed vice-president of development and community relations for the college. In this new post he will be responsible "for focusing attention on MCV's development, the raising of funds, community relations, government relations, alumni relations, publicity and long-range planning." Mr. Cardwell will find his time thoroughly occupied if he carries out his newly enumerated duties, and especially if the merger of the Medical College of Virginia and the Richmond Professional Institute materializes.

Mr. Cardwell is eminently suited for the fields of publicity and public relations. Five years ago when the college was under heavy fire from one of the local newspapers he was made vice-president in charge of public relations. The criticism subsided rapidly and ever since this unfortunate era the college has enjoyed excellent rapport with the community.

Mr. Cardwell became director of the hospital division without prior experience in hospital administration. His training was confined to civil engineering but so successful was his leadership in this exacting office that when he was awarded an honorary degree of doctor of hospital administration in 1962, it was "in recognition of his service in founding the school of hospital administration in 1949 and for many other contributions to the college."

The physicians in this area and especially the "non-geographic" members of the faculty, will miss the *MCV News Bulletin*, which was edited each month by Mr. Cardwell. This has enabled many to keep abreast of the hospital activities. It is difficult to realize that this lucid, detailed and informative news letter has met 209 consecutive dead-lines despite the many problems and interruptions to which all hospital administrators are subjected. We congratulate Mr. Cardwell on his long and successful tenure in an exacting role and we wish him every good fortune in the future.

H. J. W.



## The Pageant of Medical History (continued)

### (B) WHO AND WHICH

*They caught the torch and held it high.*

### III. MODERN MEDICINE

WE COME from the second to the sixteenth century A.D. before the dawn of so-called modern medicine is reached. Thus does it become apparent that modern medicine, when measured by the long-range yardstick of history, is indeed quite modern.

Among the complex factors responsible for a reawakening of progressive medicine was the invention of printing which is credited to Johann Gutenberg of Mainz, Germany, in 1456; although there is substantial evidence that the Chinese did block printing as early as 868. Exploration and enlargement of the known world was another factor. New drugs were brought from new lands. Several important drugs came from America during this era. Among them was ipecac, quinine and tobacco which for a considerable time was used as a narcotic—a property many youngsters of yesteryear, who initially tried chewing it, would attest that tobacco possessed. Then, of course, incident to the burgeoning of the Renaissance (14-16 centuries) there was a revival of the knowledge of Greek, and it is possible that questions which arose through religious differences created an additional impetus.

There, however, were two factors that affected the progress of medicine in a manner and measure beyond all other stimuli. One was the occurrence of great epidemics of disease that threatened to decimate the population of the known world. During the Crusades—eight of them between 1096 and 1297—the loss of life from disease was appalling. Of the 300,000 in the first Crusade, only 20,000 survived. Of the 100,000 in the third Crusade, only 5,000 survived. Disease accounted for the death of the overwhelming majority. In the 14th century, plague, called "The Black Death", killed one half of the population of Europe. Then, a second major stimulus was one that stemmed from a demand for a knowledge of human anatomy. This was incident to the advent of a school of art that studied the human body in detail. A prime mover upon this score, not only from an artistic but from a scientific standpoint as well, was Leonardo da Vinci (1452-1518).

In the year 1222 at Padua, Italy, near Venice a famous university was founded. Among the most illustrious members of the faculty of that

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Continued from July issue Virginia Medical Monthly.

institution of learning was Andreas Versalius (1514-1564). Ranking on par with Galen who had lived 14 centuries earlier, Versalius came to be known as the modern father of anatomy and as such was a worthy successor of Leonardo da Vinci. In 1543 a monumental anatomical treatise by Versalius appeared and a great wave of medical activity was initiated at Padua. Stimulated by Versalius and particularly by his estimable book that university became an exuberant medical center. Versalius was followed by a succession of extraordinarily able medical personages and teachers.

Marching in medicine's pageant from the 16th century forward a number of individuals stood out conspicuously. Following Leonardo da Vinci and Versalius we came to Ambrose Paré of France (1517-1590), a great surgeon of his time. Although mention by Celsus was made of the ligature in his *De re Medicus*, circa 30 A.D., its introduction in surgery is reckoned as having been one of Paré's more noteworthy contributions.

Internal medicine, it should be observed, lagged behind surgery. Versalius had been responsible for anatomical advances that were not matched by a knowledge of physiology. The practice of physicians remained largely mediaeval and their thinking appears to have been based upon the ancient ideas of Hippocrates and Aristotle relative to the "humours" or those of Galen concerning the several "spirits".

A key contribution to medical progress was made by a 17th century English physician who had studied under Jerome Fabrius at Padua and who in 1628 first described the circulation of the blood. His name was William Harvey (1578-1657). It has been generally conceded by clinicians and researchers alike that this was the most important single attainment in the entire history of the profession of medicine. This milestone constituted the point of departure for every subsequent medical advance of estimable consequence.

Similarly as Padua in the 13th century had developed into a fountainhead of medical enthusiasm and knowledge, in the year 1575 William of Orange founded the University of Leyden (Leiden) in Holland, and it was made singularly famous by the attendance there of a number of celebrated scientists and scholars. Its lofty reputation was sustained down to the end of the 17th century. No more distinguished member of the medical profession was associated with Leyden University—first as a student and then as a professor of medicine and botany—than Herman Boerhaave (1668-1738). The genius of this man so enhanced the stature and fame of the University of Leyden—especially as a school of medicine—that it became a mecca for medical disciples and connoisseurs from far and wide.

The second half of the 17th century brought two scientific entities destined between them to lead to a clearer conception of the functions of the human body. One was the introduction of the microscope. Anthony Van Leeuwenhoek of Holland (1632-1723) contributed significantly to

the development of the microscope, and among the many important contributions he made to the science of medicine was the first accurate description of red blood corpuscles in 1674. Although the genesis of the microscope is not clearly discernible, it would appear within the mark to consider that Spinoza (1632-1677) of Holland—born the same year as Leeuwenhoek—a philosopher, something of a clergyman and the first grinder of lenses might well have touched off the idea by his discovery of the property of lenses. In any event, Leeuwenhoek carried the development of the microscope much further. The second monumental medical attainment during the second half of the 17th century was a more realistic understanding of chemistry—a change from alchemy to chemistry.

Leaving the 17th century and passing along to the 18th, 19th and 20th centuries, the names of certain key people and their achievements come to the fore. There were a couple of 18th century Hunters in England who were major league performers. John (1728-1793), anatomist and surgeon, and William (1718-1783), the brother of John who, although not quite as celebrated perhaps as his younger brother, was nevertheless also a distinguished anatomist. And there was James Lind, an Englishman, who in 1747 discovered the cause of scurvy, the scourge of sea voyagers. Thus the idea of vitamins was born. In 1798 Edward Jenner (1749-1823), still another Englishman, published a small book describing his prevention of smallpox by vaccination. From that discovery immunization against a number of dreadful diseases resulted. These diseases include typhoid fever, tetanus, diphtheria, cholera, yellow fever, plague, mumps, measles and among the most recent and important of all, paralytic poliomyelitis.

One of the greatest contributions to modern medicine was the introduction in 1867 (exactly 100 years ago), by Joseph Lister, of the principle of antiseptic surgery. Lister's milestone was based upon the work of Louis Pasteur (1822-1895) of France, a physicist turned M.D., and of Robert Koch (1843-1910) of Germany. The results of their research in bacteriology were published between 1865 and 1885. In 1882 Koch announced his discovery of the bacillus of tuberculosis.

The introduction of ether as an anesthetic in 1842 and 1846 by Crawford Long of Georgia and Wm. T. A. Morton, a Boston dentist, respectively, was certainly a contribution of major importance to the cause of medical and surgical progress.

In 1895 Konrad Roentgen, a German physicist, discovered the x-ray.

In 1900 Patrick Manson demonstrated that a certain mosquito carried malaria. He had previously, i.e., in 1879, established that the minute hairline worms that cause filariasis were transmitted by a certain species of mosquitoes. Immediately after the Spanish-American War, at the end of the 19th century, Walter Reed (1851-1902) made the dramatic discovery that Yellow Fever also was transmitted by still another special breed of mosquitoes.



In 1910 Paul Ehrlich (1854-1915) of Germany produced his famous "606" or salvarsan. This organic compound of arsenic was the first synthetic drug of a specific nature. Its effect on the causative organism of syphilis was deadly.

Sir Frederick Grant Banting (1891-1941) of Canada, after one year of research at the University of Toronto on the internal secretion of the pancreas, in 1922 announced that he with Professor McLeod and others had discovered and succeeded in preparing insulin. Banting's death was the result of an aeroplane crash in Newfoundland.

Gehard Domagk (1895-1964), a German chemist, in 1932 introduced the sulfonamides and in 1942 Sir Alexander Fleming (1881-1955), a British bacteriologist and Sir Howard Walter Florey, a British pathologist, discovered penicillin.

To this list of noteworthy contributions to the progress of medicine could be added the names of a number of distinguished individuals, both men and women, who, in a major measure, helped determine the course of medicine. This list should certainly include Benjamin Rush (1747-1813) of Philadelphia who was a staunch advocate of vaccination against smallpox in the U. S. Army, who was the first physician in this country to record his conviction that there was a distinct correlation between decayed teeth and the health of an individual and who, moreover, wrote the first textbook in America on nervous and mental diseases.

This list should also include Baron Dominique Jean de Larrey (1766-1842), Napoleon's medical majordomo and unquestionably the greatest military surgeon of his time. Larrey was a pioneer in the practice of bringing treatment to the soldier on the field of battle rather than transporting the wounded to a treatment facility far removed from the theater of conflict. This doctrine of Larrey was adopted and improved upon by Jonathan Letterman of the U. S. Army and it has continued as a basic military medical principle to the present.

Then, it would be a dereliction not to include the Curies, Marie (1867-1934) of Poland and Pierre (1859-1906) of France—husband and wife—who in 1898 announced their discovery of the radioactivity of the mineral, pitchblende, and therefore are credited with having discovered radium. In 1903 the Curies were awarded the Nobel Prize for their discovery of radioactivity, although Antoine Henri Becquerel (1852-1908) also of France, had announced the discovery of radioactivity of uranium in 1896, i.e., two years in advance of the Curies. Pierre Curie was accidentally killed in 1906 when a dray wagon ran over him. Marie Curie however, went on to win the Nobel Prize again in 1911, this time for her work in the field of chemistry. Thus she became the first person ever to win the Nobel Prize twice.

H. LAMONT PUGH, M.D.

### Calendar of Events

- AMA PUBLIC RELATIONS INSTITUTE—Drake Hotel—Chicago—August 24-25, 1967.
- "NEW DEVELOPMENTS IN CARDIO-PULMONARY DISEASE"—Symposium Sponsored by Danville-Pittsylvania Academy of Medicine—Midtown Motor Hotel—Danville—September 8, 1967.
- EIGHTH ANNUAL CARDIOVASCULAR SYMPOSIUM—Sponsored by Tidewater Heart Association—Golden Triangle Motor Hotel—Norfolk—September 15-16, 1967.
- 27TH ANNUAL AMA CONGRESS ON OCCUPATIONAL HEALTH—Regency-Hyatt House—Atlanta, Georgia—September 25-27, 1967.
- CONTINUING EDUCATION COURSE—Approach to Clinical Problems—University of Virginia, School of Medicine—Charlottesville—September 28-29, 1967.
- "EDUCATION FOR THE POTENTIALLY COMPETITIVE CHILD—THE HANDICAPPED IN THE EDUCATIONAL SETTING"—Conference Sponsored by the Virginia Council on Health and Medical Care with the cooperation of the Nemours Foundation—Hotel Roanoke—Roanoke—October 2-3, 1967.
- AMERICAN SOCIETY OF ANESTHESIOLOGISTS—Annual Meeting—Las Vegas, Nevada—September 29-October 3, 1967.
- NATIONAL CONFERENCE ON PHYSICIANS AND SCHOOLS—LaSalle Hotel—Chicago—October 4-7, 1967.
- 15TH ANNUAL SEMINAR—Sponsored by Bluefield Sanitarium, Bluefield, West Virginia, Stevens Clinic, Welch, West Virginia and Clinch Valley Clinic, Richlands, Virginia—Seminar will feature speakers from Medical College of Virginia, Duke University Medical Center, Medical College of Georgia, and University of Indiana Medical Center—Bluefield Country Club—afternoon and evening of October 12, 1967.
- "ANXIETY AND DEPRESSION"—Post Graduate Seminar—Richmond Memorial Hospital—Richmond—October 12, 1967.
- "WILLIS ORATION"—Lecturer will be Dr. Douglas Clark, Glasgow, Scotland—Especially for Johnston-Willis Staff and members of the Richmond Academy of Medicine—Country Club of Virginia—Richmond—6:00 p.m., October 13, 1967.
- ANNUAL MEETING OF THE MEDICAL SOCIETY OF VIRGINIA—Marriott Twin Bridges Motor Hotel—Arlington—October 19-22, 1967.
- AMERICAN ACADEMY OF PEDIATRICS—Washington Hilton Hotel, Washington, D. C.—October 21-26, 1967.
- 9TH NATIONAL CONFERENCE ON THE MEDICAL ASPECTS OF SPORTS—Hotel America Houston, Texas—November 26, 1967.
- CLINICAL CONVENTION OF AMERICAN MEDICAL ASSOCIATION—Houston, Texas—November 26-29, 1967.

### New Members.

The following physicians were received

into membership of The Medical Society of Virginia in June:

Joseph Daniel Brown, III, M.D.,  
Williamsburg  
James Louis Graphery, M.D., Richmond  
Francis Michael Guilfoyle, M.D.,  
Roanoke  
Hyung Mo Lee, M.D., Richmond  
Etem Melih, M.D., Norfolk  
Melvin Ross Simpson, M.D.,  
Newport News  
Stephen Lightner Wangensteen, M.D.,  
Charlottesville  
Jock Rodgers Wheeler, M.D., Norfolk  
George Melville Williams, M.D.,  
Richmond

### **Norfolk County Medical Society.**

Dr. R. B. Grinnan, Jr., has been installed as president of this Society. Other officers are: Dr. Charles E. Davis, Jr., president-elect; Dr. Harry Pariser, vice-president; Dr. Richard C. Reed, treasurer; and Dr. J. W. Creef, secretary.

### **Roanoke Academy of Medicine.**

Officers of the Academy, to take office in the fall, are: president, Dr. John A. Martin; president-elect, Dr. P. A. Wallenborn, Jr.; vice-president, Dr. Charles A. Young; and secretary-treasurer, Dr. Donald D. Barnes.

### **Lynchburg Academy of Medicine.**

Officers of the Academy, to be installed in September, are Dr. Robert L. Morrison, president; Dr. G. Edward Calvert, president-elect; Dr. Vincent Crowder, Jr., vice-president. Drs. W. H. Morris, Jr., William M. Massie, and Powell Dillard, Jr., have been elected to the Board of Trustees.

### **The Medical Association of the Valley of Virginia.**

At its recent annual meeting, Dr. J. R. York, Berryville, was installed as president; Dr. John Glick, Broadway, president-elect;

Dr. Thomas N. Warren, Clifton Forge, and Dr. Walter Green, Harrisonburg, vice-presidents; Dr. J. R. Sease, Harrisonburg, secretary; and Dr. Charles Gaylord, Staunton, treasurer.

### **Dr. G. Slaughter Fitz-Hugh,**

Charlottesville, has been installed as president of the American Laryngological, Rhinological and Otological Society, meeting in Montreal, Canada, in May.

Dr. Fitz-Hugh recently presented a paper on Elective Cervical Esophagoscopy at the annual meeting of the American Laryngological Society in Montebello, Canada.

Dr. Fitz-Hugh was also honored by the graduating class of 1967 at the University of Virginia. He received the Robley Dunglison Award which is given in recognition of "outstanding teaching efforts and personal contributions toward arousing the academic interests and inspiring the endeavors of students."

### **Dr. Eugene Reyes Perez**

Has assumed the duties of executive director of the state's regional medical programs, designed to improve diagnosis and treatment of heart disease, cancer, stroke and related diseases. He has recently been medical director of the Petersburg General Hospital. Dr. Perez has established his office in Richmond.

### **Dr. T. R. Johns, II,**

Charlottesville, has been named the first chairman of the newly established department devoted entirely to neurology at the University of Virginia, School of Medicine. The new department will continue clinical research programs on epilepsy, drug treatment of strokes, the nature and treatment of certain neuromuscular diseases and chromosomal-genetic defects. There are also basic research programs on brain circuits.



**Dr. John R. Gill, Sr.,**

Mathews, was honorary chairman of the 1967 Mathews Spring Festival held in June.

**Dr. James G. Snead,**

Roanoke, has been elected to the Board of Directors of the Foundation for Independent Junior Colleges of Virginia.

**Seaboard Medical Association.**

At the annual meeting of this Association held at Nags Head in June, Dr. T. P. Brinn, Hertford, N. C., was installed as president. Dr. Robert B. Gahagan, Norfolk, was named president-elect and first vice-president; Drs. Henry L. Stephenson, Washington, N. C., Ray R. Mendenez, Emporia, and Charles N. Wright, Jarvisburg, N. C., vice-presidents; and Dr. B. Voss Neal, Newport, re-elected secretary-treasurer. Dr. Jerome E. Adamson, Norfolk, is the retiring president.

The 1968 meeting will be held at Nags Head June 21-23.

**Dr. Mitchell Receives Award.**

The Commandant's Award for Outstanding Service has been presented Dr. R. E. Mitchell, Richmond, for outstanding service to the United States Navy in the Fifth Naval District for services as Commandant's Representative at the Medical College of Virginia since 1 October 1964 and as the first Commanding Officer of Naval Reserve Medical Company 5-2, Richmond.

**Dr. William Norman Thornton,**

Charlottesville, has been elected to the newly established chair of the Robert C. Taylor Professorship in Obstetrics and Gynecology at the University of Virginia.

**Dr. Gordon W. Jones,**

Fredericksburg, has been re-appointed by Governor Mills E. Godwin as a member of the Board of Regents of the James Monroe Law Office-Museum and Memorial Library.

**American Medical Association.**

Dr. Milford O. Rouse, Dallas, was installed as president of this Association at its annual meeting in Atlantic City. Dr. Dwight L. Wilbur, San Francisco, was named president-elect, and Dr. Wesley W. Hall, Reno, Nevada, was re-elected chairman of the Board of Trustees.

**Cardiovascular Symposium.**

The eighth annual cardiovascular symposium sponsored by the Tidewater Heart Association and the American Heart Association's Council of Clinical Cardiology, will be held September 15-16 at the Golden Triangle Motor Hotel, Norfolk, under the chairmanship of Dr. Robert J. Robertson.

The program on the 15th will be on Clinical Application of Cardiac Research 67, and will include the following speakers: Dr. E. Harvey Estes, Duke University, on Current Concepts in Cardiac Anatomy with their Practical Implications; Dr. Dean Mason, National Heart Institute, on Current Concepts in Cardio-Vascular Physiology with their Practical Implications; Dr. Neil C. Moran, Emory University, on Current Concepts in Cardio-Pharmacology; Dr. Leonard S. Dreifus, Hahnemann Hospital, on New Approaches to Arrhythmias; Dr. Leslie A. Kuhn, Mt. Sinai Hospital, on Shocks in Myocardial Infarction; Dr. Arthur M. Masters, Mt. Sinai Hospital on Electrocardiographic Diagnosis of Ischemic Heart Disease; and Dr. Lawrence K. Groves, Cleveland Clinic, on Surgical Management of Ischemic Heart Disease. There will be panel discussions following the morning and afternoon sessions.

The Saturday morning session will be on Operative Heart Disease 67. Dr. Edward C. Lambert, State University of New York, will speak on Congenital Heart Disease; Dr. Richard G. Lester, Duke University, on Radiological Diagnosis of Cardiac Disease; Dr. A. A. Douglas Moore, Cardiopulmonary Laboratory of Norfolk, on The Place of the Diagnostic Laboratory in Diagnosis



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BURNES F. ANSELL, JR., M.D.

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JOHN H. REED, JR., M.D.  
JOSEPH W. COXE III, M.D.  
H. FAIRFAX CONQUEST, M.D.  
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RAYMOND A. ADAMS, M.D.

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JAMES T. TUCKER, M.D.  
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**COMPOSITION:** Imferon (iron dextran injection) is a well-tolerated solution of iron dextran complex providing an equivalent of 50 mg. in each cc. The solution contains 0.9% sodium chloride and has a pH of 5.2-6.0. The 10 cc. vial contains 0.5% phenol as a preservative.

**ADMINISTRATION AND DOSAGE:** Dosage, based upon body weight and Gm. Hb/100 cc. of blood, ranges from 0.5 cc. in infants to 5.0 cc. in adults, daily, every other day, or weekly. Initial test doses are advisable. The total iron requirement for the individual patient is readily obtainable from the dosage chart in the package insert. Deep intramuscular injection in the upper outer quadrant of the buttock, using a Z-track technique, (with displacement of the skin laterally prior to injection), insures absorption and will help avoid staining of the skin. A 2-inch needle is recommended for the adult of average size.

**SIDE EFFECTS:** Local and systemic side effects are few. Staining of the skin may occur. Excessive dosage, beyond the calculated need, may cause hemosiderosis. Although allergic or anaphylactoid reactions are not common, occasional severe reactions have been observed, including three fatal reactions which may have been due to Imferon (iron dextran injection). Urticaria, arthralgia, lymphadenopathy, nausea, headache and fever have occasionally been reported.

**PRECAUTIONS:** If sensitivity to test doses is manifested, the drug should not be given. Imferon (iron dextran injection) must be administered by deep intramuscular injection only. Inject only in the upper outer quadrant of the buttock, not in the arm or other exposed area.

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tions occur in some patients, especially in those with asthma, urticaria, or angioneurotic edema.

**Overdosage:** C.N.S. depression. **Symptoms**—Depression of respiration and of superficial and deep reflexes, slight constriction of the pupils (in severe poisoning, dilation), decreased urine formation, lowered body temperature, coma. **Treatment**—Symptomatic and supportive (gastric lavage; intravenous fluids; maintenance of blood pressure, body temperature, and adequate respiration). Dialysis may speed removal of barbiturates from body fluids.



**Dosage:** 50-200 mg. ( $\frac{3}{4}$ -3 grains) at bedtime.

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of Cardiac Disease; Dr. Bruce J. M. Innes, Cardiovascular Center of Norfolk, on The Use of Hemographs in Valve Replacement; and Dr. Norman B. Thompson, Cardiovascular Center Authority of Norfolk, on Pulmonary Banding in Infants with Ventricular Septal and Uncontrollable Heart Failure.

### **Virginia Association of Medical Assistants**

The Virginia Association of Medical Assistants held their Annual Seminar at the Hotel Roanoke, May 21. There was a registration of in excess of 70.

The theme of this year's program was "What's My Line" and it covered such subjects as "Windows for the Hard of Hearing" by Dr. Houston L. Bell, Gill Memorial Hospital, Roanoke; "Chemotherapy in Mental Hospitals" by Dr. Joseph J. Duetsch, Veterans' Hospital, Salem; "Public Health and the Medical Assistant" by Dr. William H. Keeler, Health Commissioner, City of Roanoke. Mr. Arne Larson, Assistant Director of the Department of Medicine & Religion of the American Medical Association, was the luncheon speaker and presented a stimulating and informative discussion of Medicine & Religion as it applies to the hospital, the doctor's office, and the role that the medical assistant plays in such matters.

The afternoon session consisted of an address by Dr. Harry L. Holloway, Roanoke College, on Scientific Medical Research in the Antarctica. Mrs. Ruth Dize, Trustee of the American Association of Medical Assistants, Norfolk, concluded the program with

an outline of how the American Association of Medical Assistants operates.

As seen by the subjects covered in this Seminar, it provided valuable information to those young ladies working in our offices and, at the same time, by a registration of in excess of 70, it shows that members of the Virginia Association of Medical Assistants are dedicated to both their physician employers and the employer's patients in attempting to better prepare themselves to serve those who look to us doctors for help.

The 1967 Annual Meeting of the Virginia Association of Medical Assistants will be in Petersburg in November.

Now, DOCTORS, I hate to keep repeating the same plea but repetition bears emphasis and I hope will produce results. Let me again urge you, the physicians of Virginia, to insist upon the young ladies who work in your office to join the local, state, and national association of medical assistants, paying their dues which are TAX DEDUCTIBLE, allowing them time off to attend their local, state, and national meetings, and assist, if not pay the total cost of their expenses to these meetings which expenses are again TAX DEDUCTIBLE as a legitimate office expense.

Let's get behind the ladies in our offices so as to increase the enrollment in the Virginia Chapter of the American Association of Medical Assistants, increase Virginia's attendance at the national meeting, and, in so doing, improve the efficiency of our offices.

JOHN WYATT DAVIS, JR., M.D.  
*Advisor, AAMA*

## ***Obituary . . . .***

### **Dr. Drewry Hamilton Mason,**

Ridgeway, died May 29th at the age of eighty-two, having been in ill health for some time. He was a graduate of the Medi-

cal College of Virginia in 1906 and had practiced in Ridgeway since 1907. Dr. Mason was honored in 1957 by the Ridgeway Community and Henry County for fifty

years of devoted service to the area. The high school in Ridgeway was named the Drewry Mason High School in his honor. Dr. Mason had served as chairman of the Henry County School Board for twenty-five years and he had also served as county medical examiner for a number of years. He was a Mason and a Shriner and was the senior member of the Patrick Henry Medical Society. Dr. Mason had been a member of The Medical Society of Virginia for sixty years.

A son, Dr. Robert L. Mason, and a daughter survive him.

### **Dr. Eugene Leslie Lowenberg,**

Norfolk, died June 8th. He was sixty-eight years of age and received his medical degree from the University of Virginia in 1923. Dr. Lowenberg was senior surgeon at the Norfolk General Hospital and chief of the service of peripheral vascular surgery. He was a member of the staffs of DePaul, Leigh Memorial, Portsmouth General, Maryview and Virginia Beach Hospitals. He was a lecturer and consultant to the Portsmouth Naval Hospital and a consultant in surgery for the U. S. Public Health Service Hospital in Norfolk. Dr. Lowenberg was a senior member of the International Cardiovascular Society, an honorary life member of the Pan American Medical Association, an honorary member of the Surgical Society of Madrid, Spain, and a member of numerous other medical organizations. Dr. Lowenberg had been an active member of The Medical Society of Virginia since 1926. He had served as a member and chairman of its scientific exhibits committee.

An editorial in the Norfolk Ledger-Star stated "Through his gentle humanity, the healing wrought by his skills and inventive mind, and the credit he reflected on this community by his renown in medical science at large, Dr. Lowenberg made his life his own memorial."

His wife and two sons survive him.

### **Dr. Adam Tyree Finch,**

Farmville, died June 18th at the age of sixty-one. He received his medical degree from the University of Virginia in 1931. Dr. Finch practiced obstetrics and gynecology and was a member of staff of the Southside Community Hospital.

Dr. Finch was an active member of The Medical Society of Virginia, having joined in 1947. He served as Councilor from the fourth district from 1961 to 1966 and was a member of the Maternal Health Committee. Dr. Finch was a member of the Virginia State Board of Medical Examiners and the Virginia State Board of Maternal Health and Welfare.

His wife, a daughter and a stepson survive him.

\* \* \* \*

The following letter was sent the family of Dr. Finch from the State Board of Medical Examiners:

To the Family of Dr. A. Tyree Finch:

This letter is written by direction of and for the entire membership of the Virginia Board of Medical Examiners. Its purpose is to express to you the feelings and thoughts of each and every member of the State Board in the loss we have experienced when we lost Tyree Finch. Words cannot possibly express this loss but can possibly give you comfort in the full knowledge of a job well done.

Dr. A. Tyree Finch was appointed to the Board of Medical Examiners by Governor Harrison in 1961. After a five year term he was reappointed for a second five year term by Governor Godwin in 1966. This fine doctor of medicine had served the Board faithfully and well for six years in spite of the fact that he was also serving faithfully and well the State Medical Society as councilor from the Fourth Congressional District. In both capacities he helped to firmly advance the reputation of Virginia medicine. In his work as a member of the State Board he was ever ready to undertake any duties given to him. He served with distinction on many committees, more especially the Legislative Committee and the Reciprocity committee. As chairman of the latter, he introduced changes and innovations which we consider invaluable improvements in the administration of licensure procedures. In all of the Board deliberations, he exhibited a keen knowledge of medical problems and a firm determination to make certain that



proper decisions would be made. At the same time he manifested an abiding human understanding and human sympathy for the members of his profession.

One could not be associated with Tyree but to love him. His honest approach to all problems was helpful to the entire Board. He endeared himself to each of us in a very personal way. Certainly he was a man who could do his own thinking. If he disagreed with you he would defend his position firmly but in a kindly manner. His outstanding strength of character was based on honesty. We had to love him for his honesty and his kindness. Above all this dear man was a gracious gentleman—one could almost say of the old school, courtly in appearance and charming to strangers as well as to friends.

Let it be recorded by the members of the State Board of Medical Examiners that in the passing of our dear friend, companion, advisor and distinguished fellow-member, this Board has suffered an irreparable loss.

DR. JOSEPH E. GLADSTONE, *President*  
DR. RUSSELL M. COX, *Secretary-Treasurer*

#### **Dr. Paul Webster Bowden,**

Richmond, died June 18th. He was fifty-four years of age and received his medical degree from the University of Cincinnati in 1937. Dr. Bowden was former chief of the Bureau of Disease Control and assistant director of the Richmond City Health Department. He was with the health offices in Southampton and Charlotte Counties before coming to Richmond. Dr. Bowden was also assistant health officer in Oakland, California, and was located in Arlington for private practice and as director of the school health program. He returned to Richmond in 1946 to become chief of communicable and venereal disease control and later as assistant director of the health department. In 1958 he joined the medical staff of A. H. Robins Company but returned to his former post with the city until he retired because of ill health in March. Dr. Bowden served as associate professor of community medicine at the Medical College of Virginia. He had been a member of The Medical Society of Virginia for twenty-eight years.

His wife and a son survive him.

#### **Dr. Preston Brooks Lowrance,**

Charlottesville, died May 30th, at the age of fifty. He received his medical degree from the University of Virginia in 1942 and was a former associate professor of medicine at the University. Dr. Lowrance was considered one of the outstanding students of cardiovascular disease in the United States and held the University's Markle Fellowship. He served as visiting investigator at Oak Ridge (Tennessee) National Laboratory from 1950 to 1960. Dr. Lowrance entered private practice in 1966. He had been a member of The Medical Society of Virginia since 1948.

His wife and a daughter survive him.

#### **Dr. Richard Lenmon Hughes, Jr.,**

Winchester, died July 1st, following a coronary occlusion, at the age of forty-seven. He was a graduate of the Medical College of Virginia in 1946. Dr. Hughes specialized in obstetrics and gynecology and was a member of the staff of the Winchester Memorial Hospital. He was a member of The Medical Society of Virginia, having joined in 1952.

His wife, a son and two daughters survive him.

#### **Dr. Brick.**

Dr. Harry Brick, a Richmond neuropsychiatrist, died on March 12, 1967, after a long illness following a laryngectomy for carcinoma of the larynx. He was fifty-seven years of age.

Dr. Brick was born in Odessa, Russia, on November 12, 1909. At the age of thirteen years, he and his family escaped the horrors of the Russian Revolution and came to the United States. He graduated from high school in Albany, New York, and received his Bachelor of Science Degree from the City College of New York in 1931. He went to Germany for his medical education and received a Doctor of Medicine Degree from the University of Leipzig in 1936. He completed his internship and residency training in this country. He was assistant resident in psychiatry at St. Louis City Hospital and resident at Tucker Hospital. He also did post graduate work at the New York State Psychiatric Institute. In 1940,

he was awarded a research fellowship by the DuPont Foundation for study of the Hypothalamus. He was certified in Psychiatry by the American Board of Psychiatry and Neurology in 1952.

In 1943, he was commissioned in the United States Army Medical Corps and served as chief neuropsychiatrist in the 31st and 4th General Hospital in the New Hebrides and in the Philippines, respectively, for twenty-eight months during World War II. He continued his active interest in the military service as a member of the active reserve. He was an enthusiastic supporter of the reserve program and devoted many hours each week to it. He was vitally interested in the welfare of his troops and maintained constant contact with them. Dr. Brick was a full Colonel and Commanding Officer of the 56th Station Hospital at the time of his retirement in 1966 because of ill health. He was buried with full military honors at Glendale National Cemetery.

Dr. Brick became neuropsychiatrist for the Virginia State Penitentiary, as well as his many private patients. He found time for clinical research and made contributions in the use of physical therapies in psychiatry and most recently in the evaluation of psychopharmacologic drugs. He continued to work courageously for one and a half years following his laryngectomy.

Dr. Brick was a lecturer in Legal Medicine at the Medical College of Virginia and was a member of the staff of Richmond Memorial Hospital, Retreat for the Sick and Sheltering Arms Hospital. He served as Secretary and was Vice Chief of the Division of Psychiatry at Richmond Memorial Hospital. He was a member of local, state, regional and national medical societies, as well as many specialty medical societies. He was a member of the Neuropsychiatric Society of Virginia and a Fellow of the American Psychiatric Association.

Dr. Brick's wife, Mrs. Elizabeth Vaughan Brick, to whom he was married in 1943, was not only a devoted and loving companion, but had been a constant and indispensable assistant to him professionally. He is survived by his wife, one sister and three brothers. He was a member of Congregation Beth Ahabah.

We join his family, the community, his many friends and patients in mourning his untimely death.

BE IT RESOLVED that this brief and inadequate resume of the fruitful life of Dr. Harry Brick be

entered in the minutes of Richmond Memorial Hospital and copies be sent to the Virginia Medical Monthly and to his family.

ISADORE SAMUEL ZFASS, M.D., *Chairman*  
BERNARD DONALD PACKER, M.D.

## Dr. Tiernan.

Dr. Andrew Martin Tiernan, beloved and respected member of the Norfolk County Medical Society, died on May 3, 1967, from an acute Myocardial Infarction.

He was a native of Rockland, Massachusetts, and was an alumnus of M.I.T., and practiced engineering for some time thereafter. He was a graduate of Worcester Academy, Worcester, Massachusetts, and attended the University of Pennsylvania. He received his M.D. from the Boston College of Physicians and Surgeons. He interned in Far Rockaway Hospital, and was a general practitioner and surgeon at Clinch Valley Clinic and Hospital, Tazewell County, Virginia. He was the school physician for Culver Military Academy, and was a past president of Tazewell Polytechnic Clinic, and had his Resident Training at the University of Louisville School of Medicine.

He had been practicing in Norfolk since 1955. He was a member of the State Society of Ophthalmology and Otolaryngology and also was president-elect of the Tidewater Society of O. and O. He was a member of the AMA and The Medical Society of Virginia. He was very active in the Wards Corner Lion's Club and was co-chairman of the Glaucoma Screening Program. He was a member of Christ the King Catholic Church.

He was a sincere, hard working physician, and was well liked and respected by all. It was often said that he "could not do enough" for his friends. Besides his widow, surviving are a daughter and five grandchildren.

BE IT RESOLVED: That the Norfolk County Medical Society enter in its minutes these remembrances of Dr. Tiernan and convey sympathy to his family.

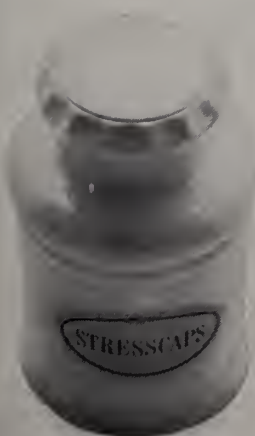
BE IT FURTHER RESOLVED: That a copy be sent to the family and the Virginia Medical Monthly.

AUBREY L. SHELTON, M.D.  
JEREMIAH A. KLOTZ, JR., M.D.  
JOHN FOSTER, M.D.



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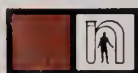


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Should you, for example, in treating pneumonia? The rationale for using this penicillin in pneumonia is that it is effective against *Hemophilus influenzae* as well as against *Diplococcus pneumoniae*.

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But what about *Mycoplasma pneumoniae*, which may be better known to you as Eaton Agent? No penicillin is known to be effective against this common cause of pneumonia. DECLOMYCIN is.

Some believe that *Mycoplasma pneumoniae* may be responsible for upwards of 30 per cent of all cases of pneumonia.<sup>3</sup> Could this mean that if you employ a penicillin in pneumonia when the etiological agent is unknown, there may be an automatic 30 per cent chance of failure?

When you consider using a drug *like* a broad-spectrum antibiotic, why not use a *true* broad-spectrum antibiotic? Like DECLOMYCIN.

References: 1. A.M.A. Council on Drugs: *New Drugs* 1966 ed. Chicago: American Medical Association, p. 12. 2. Osol, A.; Pratt, R., and Altschule, M.D.: *The United States Dispensatory*, 26th ed. Philadelphia: J. B. Lippincott Co., 1967, p. 844. 3. Purcell, R. H., and Chanock, R. M.: Role of Mycoplasmas in Human Respiratory Disease. *Med. Clin. N. Amer.* 51:791 (May) 1967.

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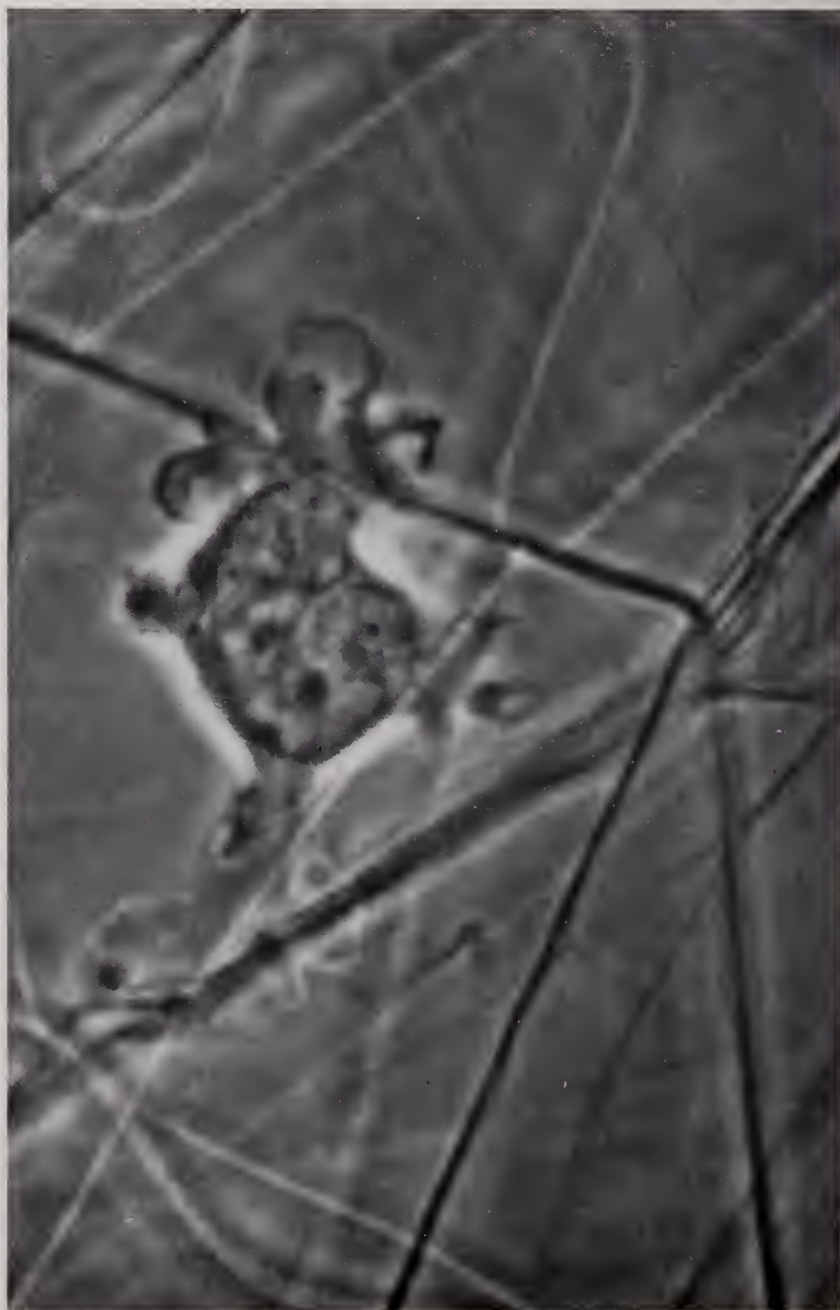
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# INFLAMMATION: A cellular fight for life

*A SYNTEX REPORT based on recently developed hypotheses about topical corticosteroids, including the cellular theories of inflammation by Thomas F. Dougherty, Ph.D., University of Utah.*

You are looking at a fibroblast fighting for life. This cell—one of the most common found in connective tissue—has literally been poisoned by cytotoxins released from other cells that have ruptured. Soon, if the abnormal activity of this fibroblast does not cease, it, too, will rupture and die—one more casualty in the inflammatory wave of destruction precipitated by injury.

Until a short time ago no one had ever witnessed such a scene at the cellular level. Now, through advanced cinemicrographic techniques, it is possible to view and photograph the inflammatory process as produced experimentally in living animal tissue. This method permits new insight into the mechanism of inflammation and the role of corticosteroids in therapeutic management. Equally important, these techniques shed new light on factors that may make one corticosteroid more effective than another—factors that can be correlated with other chemical, biologic, and clinical parameters.



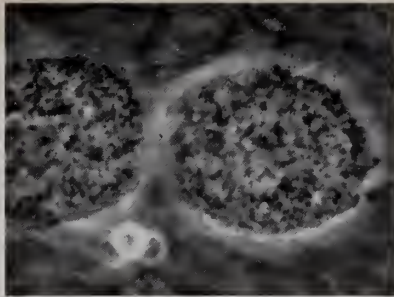


# Visual evidence of how corticosteroids influence the inflammatory reaction

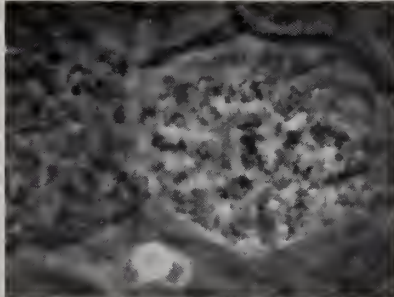
Working with phase-contrast cine-micrography on living animal tissue, Doctors Thomas F Dougherty and David Berliner of the University of Utah College of Medicine have actually filmed cellular events that occur during the inflammatory reaction. This remarkable study\* and additional work by these investigators, as well as by others, have established a new theoretical biologic basis for the antiinflammatory effect of the corticosteroids. (It must be noted that other theories, such as the lysosome or so-called "suicide bag" theory, have been postulated, although it is quite likely that there are more similarities than differences among the various theoretical models.)

## The inflammatory wave of destruction

In this investigation an injurious injection of gelatin is used to set off an inflammatory reaction in living mouse tissue. What follows is a wave of destructive cellular activity that comprises the inflammatory response to injury. Mast cells (which contain heparin, serotonin and histamine) take up water, swell and rupture, releasing their contents, which are toxic outside the mast cell wall. These toxins, in turn, cause disintegration of other cells (such as fibroblasts) and the release of additional toxic material. Capillaries, too, take up water and leak unformed blood elements, causing edema. And polymorphonuclears, lymphocytes and perithelial cells invade the inflamed site. As a result of all these changes, the cellular environment reaches a state of turmoil.



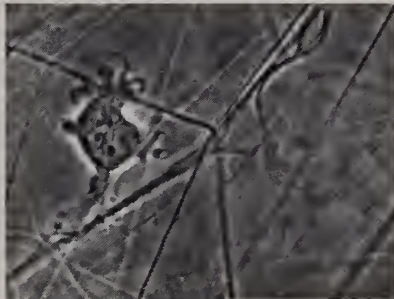
Phase-contrast microscopy showing mast cell before injury.



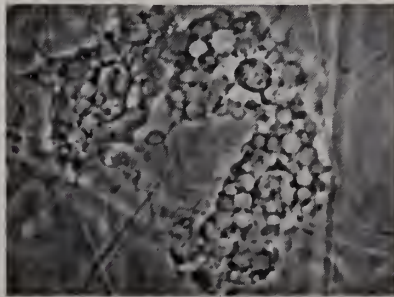
Mast cell (after injury) has broken up and released cytotoxins.

## How corticosteroids change the picture

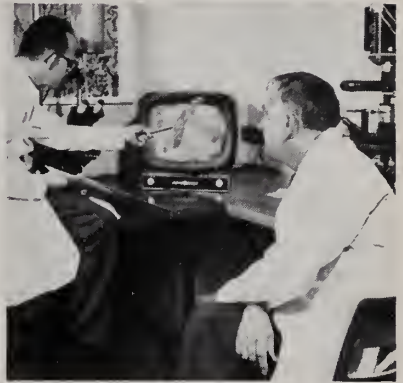
Corticosteroids appear to virtually stop the abnormal cellular activity that constitutes the inflammatory reaction. This permits the body's natural resources to clear up the inflamed area and repair the damaged tissue. This interpretation is supported by the fact that when the injurious gelatin solution is injected simultaneously with a corticosteroid — Synalar (fluocinolone acetonide) — the inflammatory pattern simply does not develop.



Fibroblast in high state of activity, much distorted.



Mast cells showing effects of corticosteroid action: cells are normal in size, shape and activity.



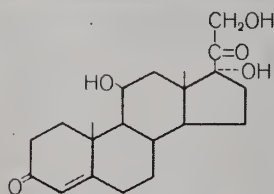
In summarizing his study Doctor Dougherty states: "...we also feel this work may explain why one corticosteroid helps a patient more rapidly and effectively than another. If it does, it is because one corticosteroid is the fastest, most effective inhibitor of the series of inflammatory events at the tissue level."

\*A New View of Corticosteroid Action in Inflammatory Dermatoses, a film based on this study, is now available from your Syntex representative.

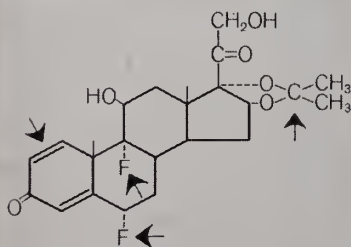


# How advances in chemical design have achieved greater steroid potency

The chemical modification of corticosteroid molecules from the advent of hydrocortisone to the development of Synalar (fluocinolone acetonide) is a prime example of how biochemists can "design" to increase therapeutic activity and minimize undesirable side actions. Below, for example, we see the important changes that were made in reference to the hydrocortisone molecule to produce fluocinolone acetonide, one of the most active of all topical corticosteroids. As a result, a 0.01% preparation of Synalar (fluocinolone acetonide) has been reported to do the work of a 1% hydrocortisone product containing 100 times more corticosteroid. And it can often do it more effectively.



**Hydrocortisone**

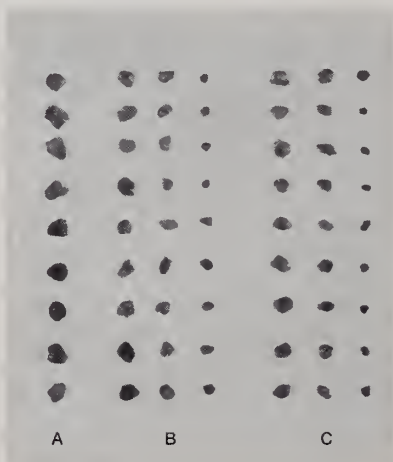


**Fluocinolone Acetonide (Synalar)**

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- the addition of the acetonide at the 16- $\alpha$ , 17- $\alpha$  positions, thus providing one of the most potent topical corticosteroids available.

## How bioassay tests are used to "predict" therapeutic potential

Biologic assays are another tool used by researchers to help establish the relative activity of corticosteroids. To date no single method of assaying corticosteroid activity has emerged as the ideal "yardstick" for predicting therapeutic potential. Taken together, however, these methods have proved useful. When such tests are run on various corticosteroids, a definite order of corticosteroid activity becomes evident. Compounds with the highest order of activity may be expected to merit clinical trial to establish their high therapeutic potential. When assayed by these methods, fluocinolone acetonide (Synalar) emerges as one of the most active topical corticosteroids, milligram for milligram, available for clinical application today.



THE THYMUS INVOLUTION ASSAY<sup>1-4</sup> is run on adrenalectomized rats. The sizes of the glands are measured, and the degree of involution caused by the steroid is determined as an indication of its potency. In the above photo, the comparative involution of thymus glands achieved with hydrocortisone and Synalar (fluocinolone acetonide) is shown. Untreated controls (A) show normal size. Group B—injected with 1, 2 and 4 mg. of hydrocortisone—show progressively smaller thymuses as does Group C—injected with fluocinolone acetonide—but with only 1/500th the dose of hydrocortisone.



THE ANTIGRANULOMA ASSAY<sup>1-4</sup> also utilizes adrenalectomized rats. Granulomas are induced by subcutaneous implantation of cotton pellets on either side of the thorax. The degree of granuloma inhibition achieved by a steroid reflects its potency. The above photo shows the inhibition of granuloma formation achieved with hydrocortisone and Synalar (fluocinolone acetonide). Untreated controls (A) show large, red granulomas adhering to the pellets. Group B, receiving hydrocortisone and Group C, receiving fluocinolone acetonide, show little, if any, granuloma formation. Fluocinolone acetonide produced the same effect as hydrocortisone with only 1/500th the dose. This assay, as well as the thymus involution assay, measures systemic rather than topical corticosteroid activity. Nevertheless, results by these methods correlate well with other assays and with the milligram potencies of topical steroids in current clinical use.

# Worldwide clinical experience confirms the predictable therapeutic potential of Synalar

It is particularly gratifying that the promise of the advanced chemical design and high order of bioassay activity of Synalar (fluocinolone acetonide) has been confirmed by widespread therapeutic application. Indeed, the impressive clinical response rate of Synalar has been documented in no fewer than 232 papers from 22 countries.

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**CONTRAINDICATIONS:** Tuberculous, fungal, and most viral lesions of the skin, (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components. **PRECAUTIONS:** Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for pro-

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Contact Dermatitis	27	750	713
Eczematous Dermatitis	21	472	409
Seborrheic Dermatitis	18	442	426
Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
<b>Total</b>	<b>144</b>	<b>4,174</b>	<b>3,808</b>

\*Complete bibliography on request.

†Expressed by the authors as excellent, very good, good, complete remission of inflammation, etc.

longed periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. **SIDE EFFECTS:** Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

**REFERENCES:** 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. *Ann NY Acad Sci* 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. *Proc Soc Exp Biol Med* 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: *Methods of hormone research*, New York, Academic Press, 1964. vol. III. pp. 234-280. 4. Gubersky, V. R.: To be published.

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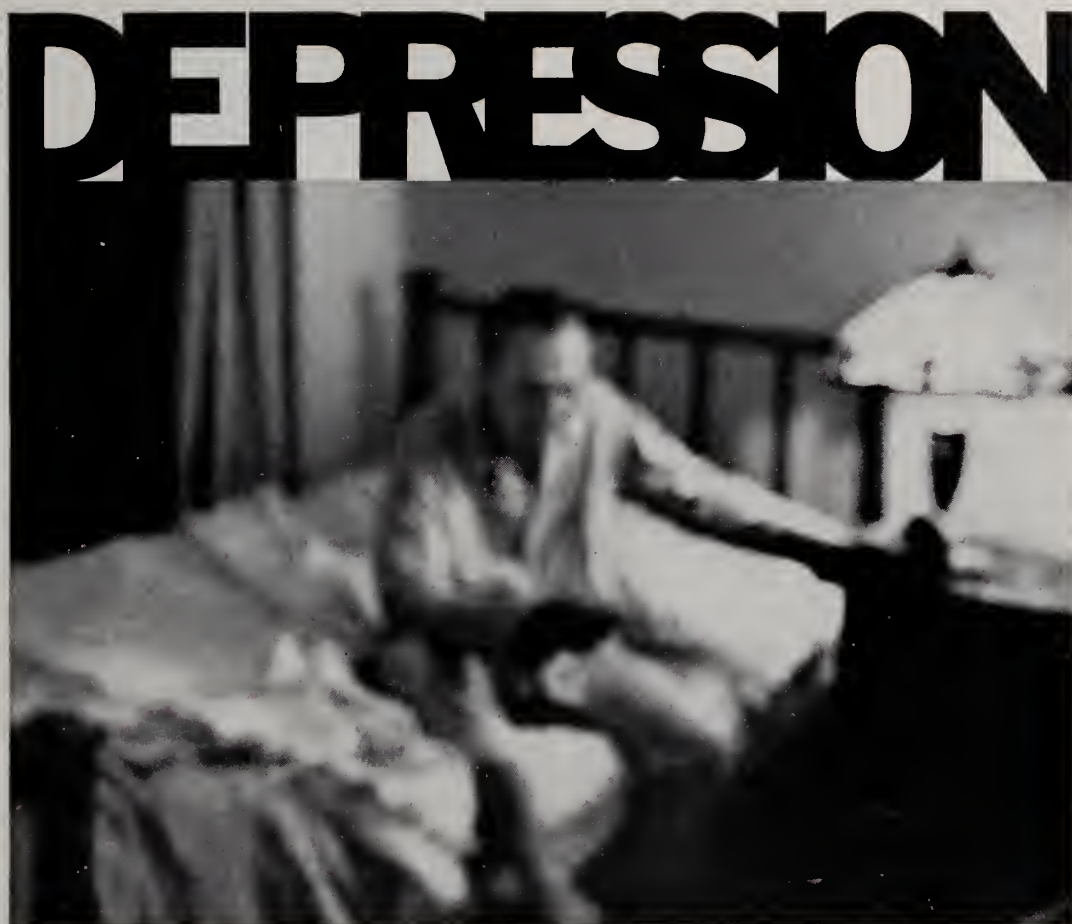
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## NORPRAMIN<sup>®</sup> (desipramine hydrochloride)

ANTIDEPRESSANT FOR RAPID IMPROVEMENT

At the recommended dosage level—initially, 150 mg. per day—gratifying remission of the signs and symptoms of depression typically begins in 2-5 days. Its specificity for depression, rapidity of action and usually mild side effects are significant reasons for prescribing NORPRAMIN (desipramine hydrochloride) in depression of any type... any degree of severity.

A few patients, sensitive to central nervous system stimulants may become restless as depression is lifted—in such cases dosage may be reduced or a tranquilizer added.

### IN BRIEF:

**INDICATIONS:** In depression of any kind—neurotic and psychotic depressive reactions; manic-depressive or involutional psychotic reactions.

**CONTRAINDICATIONS:** Glaucoma, urethral or ureteral spasm, recent myocardial infarction, severe coronary heart disease, epilepsy. Should not be given within two weeks of treatment with a monoamine oxidase inhibitor.

**RELATIVE CONTRAINDICATIONS:** (1) Patients with a history of paroxysmal tachycardia. (2) Patients receiving concomitant therapy with thyroid, anticholinergics or sympathomimetics may experience potentiation of effects of these drugs. (3) Safety in pregnancy has not been established.

**PRECAUTIONS:** (1) Outpatient use of desipramine hydrochloride should not be substituted for hospitalization when risk of suicide or homicide is considered grave. (2) If serious adverse effects oc-

cur, reduce dosage or alter treatment. (3) In patients with manic-depressive illness a hypomanic state may be induced. (4) Discontinue drug as soon as possible prior to elective surgery.

**ADVERSE EFFECTS:** Side effects, usually mild, may include: dry mouth, constipation, dizziness, palpitation, delayed urination, "bad taste," sensory illusion, tinnitus, anxiety, agitation and stimulation, insomnia, sweating, drowsiness, headache, orthostatic hypotension, flushing, nausea, cramps, weakness, blurred vision and mydriasis, rash, tremor, allergy, agranulocytosis, altered liver function, ataxia, and extrapyramidal signs.

**DOSAGE:** Optimal results are obtained at a dosage of 50 mg., t.i.d. (150 mg./day). **SUPPLIED:** NORPRAMIN (desipramine hydrochloride) tablets of 25 mg.; bottles of 50, 500 and 1000; and tablets of 50 mg., in bottles of 30, 250 and 1000.



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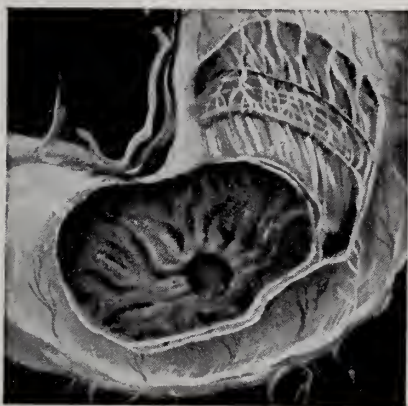
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Before prescribing, please consult complete product information, a summary of which follows:

**Contraindications:** Infants, patients with history of convulsive disorders or glaucoma.

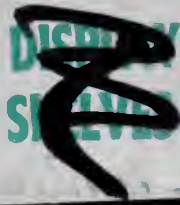
**Warning:** Not of value in the treatment of psychotic patients, and should not be employed in lieu of appropriate treatment.

**Precautions:** Limit dosage to smallest effective amount in elderly patients (not more than 1 mg, one or two times daily) to preclude ataxia or oversedation. Advise patients against possibly hazardous procedures until correct maintenance dosage is established; driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. Warn patients of possible combined effects with alcohol. Safe use in pregnancy not established. Observe usual precautions in impaired renal or hepatic function and in patients who may be suicidal; periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.

**Side Effects:** Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash; paradoxical reactions (excitement, depression, stimulation, sleep disturbances, hallucinations); changes in EEG patterns. Abrupt cessation after prolonged over-dosage may produce withdrawal symptoms similar to those seen with barbiturates, meprobamate and chlor-diazepoxide HCl.

**Dosage—Adults:** Mild to moderate psychoneurotic reactions, 2 to 5 mg b.i.d. or t.i.d.; severe psychoneurotic reactions, 5 to 10 mg t.i.d. or q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; muscle spasm with cerebral palsy or athetosis, 2 to 10 mg t.i.d. or q.i.d. Geriatric patients: 1 or 2 mg/day initially, increase gradually as needed.

**Supplied:** Tablets, 2 mg, 5 mg and 10 mg; bottles of 50 for convenience and economy in prescribing.



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the intestinal flora

■ for fever blisters and canker  
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No untoward side effects have been reported to date.

*Literature on indications and dosage available on request.*

### References:

- (1) Siver, R. H.: CMD, 21:109, September 1954. (2) Frykman, H. H.: Minn. Med., 38:19-27, January 1955. (3) McGivney, J.: Tex. State Jour. Med., 51:16-18, January 1955. (4) Quehl, T. M.: Jour. of Florida Acad. Gen. Prac., 15:15-16, October 1965. (5) Weekes, D. J.: N.Y. State Jour. Med., 58:2672-2673, August 1958. (6) Weekes, D. J.: EENT Digest, 25:47-59, December 1963. (7) Abbott, P. L.: Jour. Oral Surg., Anes., & Hosp. Dental Serv., 310-312, July 1961. (8) Rapoport, L. and Levine, W. I.: Oral Surg., Oral Med. & Oral Path., 20:591-593, November 1965.

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VIRGINIA MEDICAL MONTHLY



## NORPRAMIN<sup>®</sup> (desipramine hydrochloride)

ANTIDEPRESSANT FOR RAPID IMPROVEMENT

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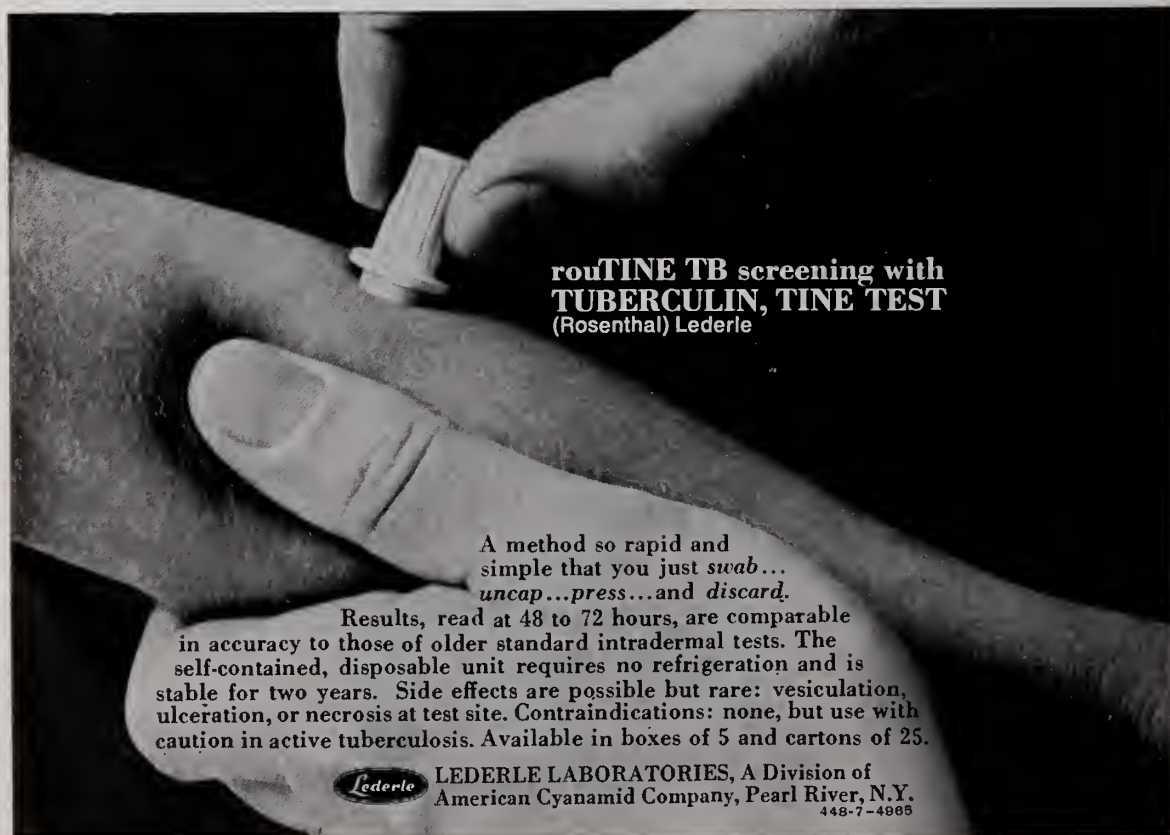
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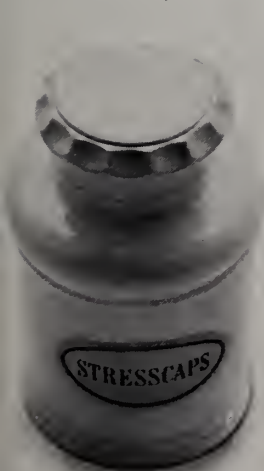


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 Vitamin B<sub>6</sub> (Pyridoxine HCl) 2 mg  
 Vitamin B<sub>12</sub> Crystalline 4 mcgm  
 Vitamin C (Ascorbic Acid) 300 mg  
 Niacinamide 100 mg  
 Calcium Pantothenate 20 mg  
 Recommended intake: Adults, 1 capsule daily, for the treatment of vitamin deficiencies. Supplied in decorative "reminder" jars of 30 and 100; bottles of 500.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York 692-6-3943





**Winthrop**

**announces**

**a breakthrough in the  
control of pain**

**Talwin<sup>®</sup>**  
brand of  
**pentazocine**  
(as lactate)

**a potent, injectable non-narcotic**

**For every physician  
who has ever prescribed morphine**

Talwin is the new potent non-narcotic injectable analgesic which is indicated for relief of all types and degrees of pain in acute and chronic disorders. Talwin 30 mg. is usually as effective an analgesic as morphine 10 mg. or meperidine 75 to 100 mg., but needs no narcotics controls. The duration of action of Talwin may sometimes be less than that of morphine.

A brochure incorporating analyzed information on Talwin is available. The completeness of the information will permit you to evaluate the role Talwin can play in your practice.

**You can depend on Talwin to relieve pain:**

**WHATEVER** the intensity of the pain

the cause of the pain

the site\* of the pain

the duration of the pain

the chronicity of the pain

the age† of the patient

Talwin is relatively free from adverse effects of morphine, such as constipation, urinary retention, or severe respiratory depression.

It has been used, in varying dosages, in over 12,000 patients for relief of pain of medical disorders, of active labor and postoperative pain; also for preoperative or preanesthetic medication, and as an adjunct to anesthesia.

**Talwin does not require a narcotics prescription**

The World Health Organization Expert Committee on Dependence-Producing Drugs concluded that "...there was no need at this time for narcotics control of pentazocine [Talwin] internationally or nationally." (WHO Tech. Rep. Ser., No. 343, 1966, p. 6.)

It is our sincere belief that the discovery of Talwin by Winthrop Laboratories will be of great value to you and your patients for whom you may have to prescribe a potent analgesic.

\*Talwin should not be used for patients with increased intracranial pressure head injury or pathologic brain conditions.

†Until sufficient experience is gained, it should not be administered to children under 12 years of age.

# Talwin—brand of pentazocine (as lactate)

**Contraindications:** *Increased Intracranial Pressure, Head Injury, or Pathologic Brain Conditions in which clouding of sensorium is undesirable.* Talwin (brand of pentazocine) should not be administered in these cases, since drug-induced sedation, dizziness, nausea, or respiratory depression could be misleading.

**Precautions:** *Pregnancy.* No teratogenic or embryotoxic effects attributable to the use of Talwin have been seen in extensive reproductive studies in animals; however, like all new drugs, Talwin should be given with caution to pregnant women. A large number of patients in labor have received the drug with no adverse reactions other than those that occur with commonly used strong analgesics. However, as with other strong analgesics, Talwin should be used with caution in women delivering premature infants.

**Ambulatory Patients.** Since sedation, dizziness, and occasional euphoria have been noted, ambulatory patients should be warned not to operate machinery, drive cars, or unnecessarily expose themselves to hazards.

**Certain Respiratory Conditions.** The possibility that Talwin (brand of pentazocine) may cause respiratory depression should be considered in treatment of patients with bronchial asthma. Talwin (brand of pentazocine) should be administered only with caution and in low dosage to patients with respiratory depression (e.g., from other medication, uremia, or severe infection), obstructive respiratory conditions, or cyanosis.

**Patients Dependent on Narcotics.** Because Talwin is a narcotic-antagonist, patients dependent on narcotics and receiving Talwin may occasionally experience certain withdrawal symptoms. Talwin should be given with special caution to such patients. It has been observed that some patients previously given narcotic-analgesics or one month or longer had mild withdrawal symptoms when the drug was replaced with the analgesic, Talwin. After a short period of adjustment the subjects were usually able and willing to continue taking Talwin, and relief of pain was satisfactory.

**Nonaddicted Patients Receiving Narcotics.** Symptoms believed to be indicative of antagonism to the opiate may be observed rarely with administration of Talwin to patients receiving opiates for a short time. Intolerance or untoward reactions are seldom observed after administration of Talwin to patients who have received single doses or who have had limited exposure to narcotics.

**Impaired Renal or Hepatic Function.** Although laboratory tests have not indicated that Talwin (brand of pentazocine) causes or increases renal or hepatic impairment, the drug should be administered with caution to patients with such impairment. Extensive liver disease appears to predispose to greater side effects (e.g., marked apprehension, anxiety, dizziness, sleepiness) from the usual clinical dose, and may be the result of decreased metabolism of the drug by the liver.

**Myocardial Infarction.** As with all drugs, Talwin (brand of pentazocine) should be used with caution in patients with myocardial infarction who have nausea or vomiting.

**Biliary Surgery.** Until further experience is gained with the effects of Talwin on the sphincter of Oddi, the drug should be used with caution in patients about to undergo surgery of the biliary tract.

**Adverse Effects:** Talwin is relatively free from the undesirable side effects associated with morphine, such as constipation, urinary retention, or severe respiratory depression. Furthermore, Talwin produces less nausea, vomiting, and diaphoresis than meperidine.

Over 12,000 patients who received Talwin intramuscularly, subcutaneously, or intravenously, nausea, the most frequent adverse effect, occurred in approximately 5.0 per cent. In decreasing order of occurrence were vertigo, dizziness or lightheadedness; vomiting; and euphoria. Respiratory depression was reported as an adverse reaction in 1.0 per cent.

The incidence of each of the other adverse effects was well below 0.1 per cent: constipation, circulatory depression, diaphoresis, urinary retention, alteration in mood (nervousness, apprehension, depression, floating feeling), hypertension, sting on injection, head-

ache, dry mouth, flushed skin including plethora, altered uterine contractions during labor, dermatitis including pruritus, dreams, paresthesia, and dyspnea occurred rarely after administration of Talwin (brand of pentazocine). Furthermore, each of the following adverse reactions occurred in less than 0.1 per cent: tachycardia, visual disturbance (blurred vision, diplopia and nystagmus), hallucinations, disorientation, weakness or faintness, muscle tremor, chills, allergic reactions including edema of the face, taste alteration, insomnia, diarrhea, cramps, and miosis; laryngospasm in one patient.

Talwin has not produced severe respiratory embarrassment in adults (never apnea), even with large amounts. A small number of newborn infants whose mothers received Talwin during labor had transient apnea. The incidence of temporary diminution in the rate or strength of uterine contractions is low after administration of Talwin, similar to that following meperidine hydrochloride. (In reporting no interference with normal labor in patients receiving Talwin, one investigator further stated that the drug may increase uterine activity.) Generally, no significant fetal heart rate change occurs.

Laboratory tests of blood and of liver and kidney functions have revealed no significant abnormalities. A minimum and probably insignificant increase in the per cent of eosinophils in peripheral blood counts and bone marrow occurred occasionally.

Talwin is well tolerated by patients with diabetes mellitus, and no changes in insulin requirements have been observed.

**Dosage and Administration:** *Adults, Excluding Patients in Labor.* Average recommended single parenteral dose is 30 mg., by intramuscular, subcutaneous, or intravenous route; may be repeated every three to four hours. Pain has been relieved in most patients with not more than three doses daily. Infrequently, selected patients have received single doses as high as 60 mg. *Patients in Labor.* A single, intramuscular 30 mg. dose has been most commonly administered. An intravenous 20 mg. dose has given adequate pain relief to some patients in labor when contractions become regular, and this dose may be given two or three times at two- to three-hour intervals, as needed.

**Children Under 12 Years of Age.** Since clinical experience in children under twelve years of age is limited, the use of Talwin (brand of pentazocine) in this age group is not recommended.

**Duration of Therapy.** Patients with chronic pain who received Talwin for prolonged periods (e.g., over 300 days) experienced no withdrawal symptoms even when administration was stopped abruptly; furthermore, there was no tolerance to the analgesic effect.

**CAUTION.** Talwin should not be mixed in the same syringe with soluble barbiturates because precipitation will occur.

**Treatment of Overdosage or Respiratory Depression.** Talwin has not produced apnea or severe respiratory embarrassment in adults, even in large doses. Occasionally, however, moderate respiratory depression may occur. Means of maintaining proper oxygenation should be available in case of overdosage or respiratory depression, and methylphenidate (Ritalin®) should be administered parenterally. The usual narcotic-antagonists, such as nalorphine, are not effective respiratory stimulants for depression due to Talwin.

**How Supplied:** *Ampuls of 1 ml.,* containing Talwin® (pentazocine) as lactate equivalent to 30 mg. base and 2.8 mg. sodium chloride, in Water for Injection. Boxes of 10, 25, and 100.

**Multiple dose vials of 10 ml.,** each 1 ml. containing Talwin (pentazocine) as lactate equivalent to 30 mg. base, 2 mg. acetone sodium bisulfite, 1.5 mg. sodium chloride, and 1 mg. methylparaben as preservative, in Water for Injection. Boxes of 1.

The pH of Talwin solutions is adjusted between 4 and 5 with lactic acid and sodium hydroxide.



Winthrop Laboratories, New York, N. Y. 10016



# When moderate to severe anxiety strikes home... (the agitated geriatric)

His teen-age  
granddaughter  
won't invite  
friends  
home  
because  
of his  
outbursts.



for moderate to severe anxiety  
**Mellaril<sup>®</sup>**  
(thioridazine)  
25 mg. t.i.d.





**His slovenly room  
and habits create  
more tension.**

**His disturbances at  
the table make every  
meal a nightmare.**

**His daughter  
can't please him.  
There is "just no  
living with him."**

See following page for prescribing information.

## When moderate to severe anxiety strikes home...

Anxiety that seriously interferes with the individual's performance at work, at home, or in the community may be regarded as moderate to severe in degree.

Mellaril often recommends itself to the treatment of moderate to severe anxiety because it

- helps control the most frequent symptoms: marked tension, agitation, apprehension, restlessness, hypermotility
- often alleviates anxiety-induced somatic complaints
- frequently helps strengthen emotional resources
- helps the patient maintain realistic contact with environment, closer harmony with family

Thus, when you consider the anxiety moderate to severe... consider Mellaril.

**Contraindications:** Severely depressed or comatose states from any cause, and in association with or following MAO inhibitors; severe hypertensive or hypotensive heart disease.

**Precautions:** Hypersensitivity reactions (e.g., leukopenia, agranulocytosis) and convulsive seizures are infrequent. Pigmentary retinopathy has been observed where doses in excess of those recommended were used for long periods of time. May potentiate central nervous system depressants, atropine, and phosphorus insecticides. Where complete mental alertness is required, administer the drug cautiously and increase dosage gradually. In addition, orthostatic hypotension (especially in female patients) has been observed. Epinephrine should be avoided in treatment of drug-induced hypotension.

**Side Effects:** Pseudoparkinsonism and other extrapyramidal disorders are infrequent; drowsiness, especially in high doses early in treatment, may occur; nocturnal confusion, dryness of the mouth, nasal stuffiness, headache, peripheral edema, lactation, galactorrhea, and inhibition of ejaculation are noted on occasion; photosensitivity and other allergic skin reactions may occur but are extremely rare.

Before prescribing, see package insert for full product information.

for moderate to severe anxiety

**Mellaril®**  
(thioridazine)  
25 mg. t.i.d.



# mudrane®

for

- EMPHYSEMA
- ASTHMA
- CHRONIC BRONCHITIS
- BRONCHIECTASIS



Each tablet contains:

Potassium Iodide . . . . . 195 mg.  
Aminophylline . . . . . 130 mg.  
Phenobarbital, Caution: May be habit forming . . . 21 mg.  
Ephedrine HCl . . . . . 16 mg.

FEDERAL LAW PROHIBITS  
DISPENSING WITHOUT PRESCRIPTION

**Precautions:** Usual for aminophylline-ephedrine-phenobarbital. Iodides may cause nausea, long use may cause goiter. Discontinue if symptoms of iodism develop.

Iodide contraindications: tuberculosis, pregnancy.

### DOSAGE

One tablet, with full glass of water, 3 or 4 times daily.

Dispensed in bottles of 100 and 1000 tablets.

**MUDRANE GG**—Formula, dosage and package identical to Mudrane—except—100 mg. glyceryl guaiacolate replaces the potassium iodide. The value of Mudrane cannot be enjoyed by a small group in which K.I. is contraindicated. Mudrane GG is prepared for this group.

**MUDRANE GG ELIXIR**—Four 5 cc teaspoonfuls is equivalent to one Mudrane GG tablet. Dosage adjusted to age and weight of child. Mudrane GG Elixir is for pediatric patients and those who think they cannot swallow tablets. Dispensed in pint and half gallon bottles.

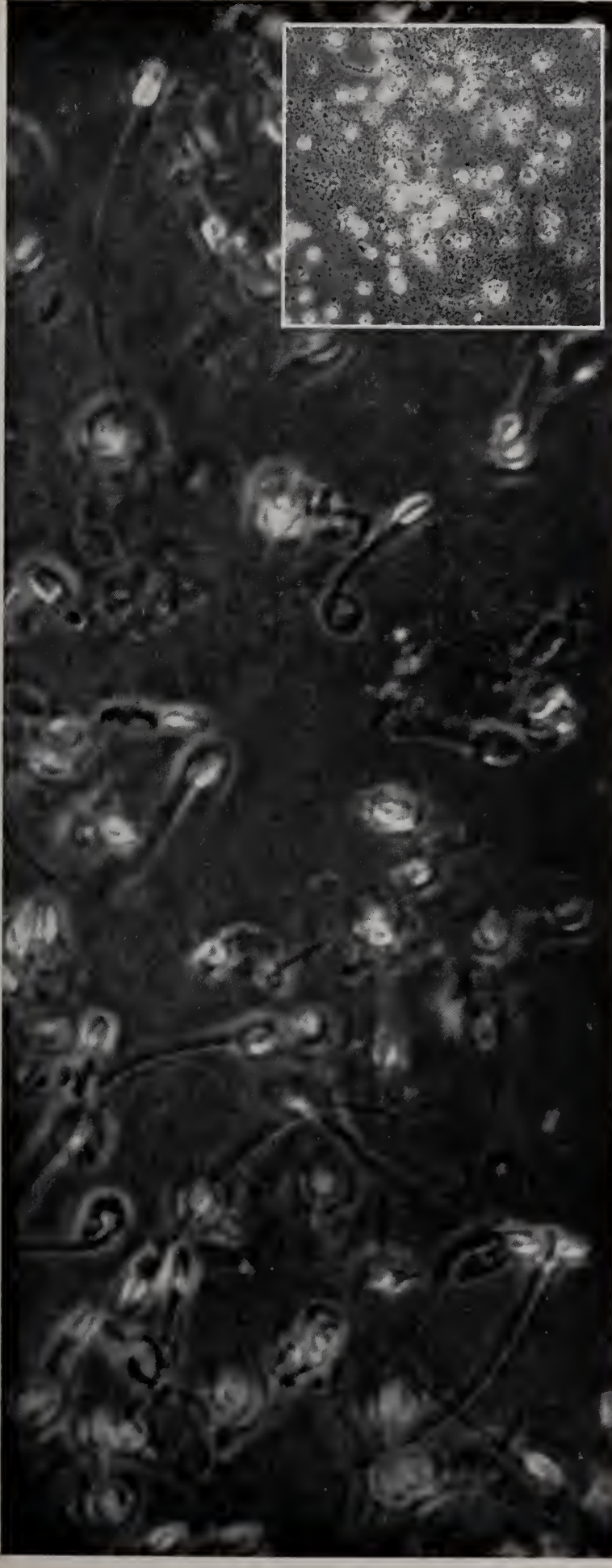
WM. P. POYTHRESS & CO., INC.  
RICHMOND, VIRGINIA 23217

Manufacturers of ethical pharmaceuticals since 1856





# New view of an oral contraceptive at work



Although suppression of ovulation remains the primary mode of action of oral contraceptives, newer knowledge indicates that products like Norinyl-1—a combination of both low-dosage progestogen and estrogen for the full treatment cycle—may provide multiple action that helps explain their unexcelled record of contraceptive effectiveness. This report explores the possible secondary protective mechanisms offered by combined hormonal administration.

Accumulating evidence has indicated that sparse, highly viscous cervical mucus has a possible adverse effect on the motility and survival of spermatozoa.

The estrogen-opposing progestational ingredient of Norinyl-1 (norethindrone 1 mg. with mestranol 0.05 mg.) changes the usual mid-cycle picture of a thin, watery cervical mucus. The result—a built-in barrier that appears to inhibit sperm from reaching the ovum should one be released. The inset in the adjoining photograph shows immobile spermatozoa as they appear in cervical mucus taken from a patient treated with Norinyl-1.



# How the estrogen-opposing action of Norinyl-1 creates cervical mucus that may be hostile to sperm penetration

Normally, estrogen activity during the fertile midcycle stimulates the production of a profuse and watery cervical mucus that permits maximum sperm motility and promotes penetration.

But what happens when Norinyl-1 is administered? Its potent progestogen, norethindrone, opposes estrogen stimulation of cervical mucus. Consequently, the amount of mucus decreases and its viscosity increases. This results in a sparse but thick mucus barrier that appears to diminish the vitality of the sperm and to impair its powers of penetration.

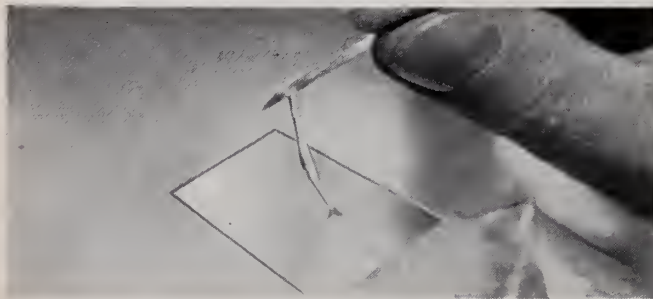
## The role of viscous cervical mucus as a secondary action of Norinyl-1

In a report on 89 patients taking this medication,\* cervical mucus obtained from cycle day 5 to cycle day 29 appeared scant and thick and exhibited little or no Spinnbarkeit.

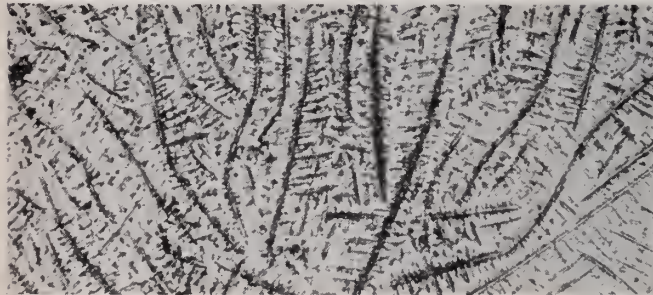
In the opinion of this investigator, the effect on cervical mucus may be sufficient to prevent conception.

\*Cohen, M. R.: Symposium: Mechanisms of Action of Low Dosage Oral Contraceptive, Yale University Medical Center, New Haven, Conn., April 6, 1967.

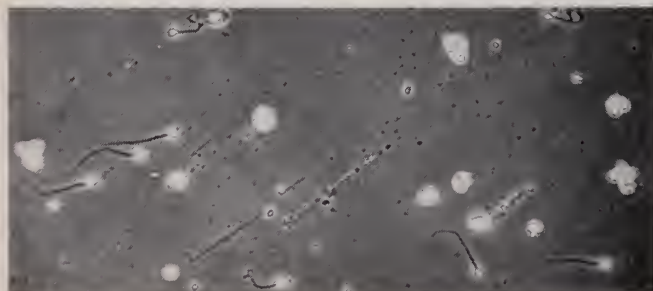
**Normal cervical mucus at midcycle in untreated patient is known to permit sperm motility... promote sperm penetration.**



Cervical mucus is thin and watery with a stretchability (Spinnbarkeit) of 15 to 20 cm.



Thin, watery mucus crystallizes into this well-defined, fernlike pattern within a minute.

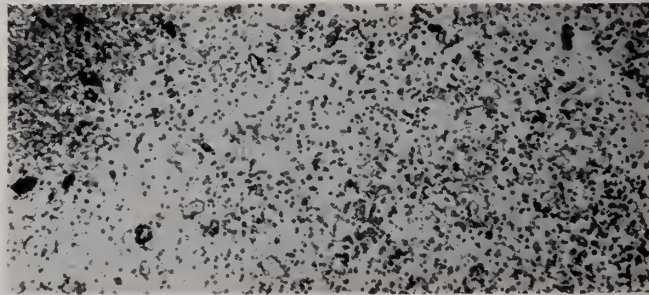


Spermatozoa appear healthy, are active and freemoving.

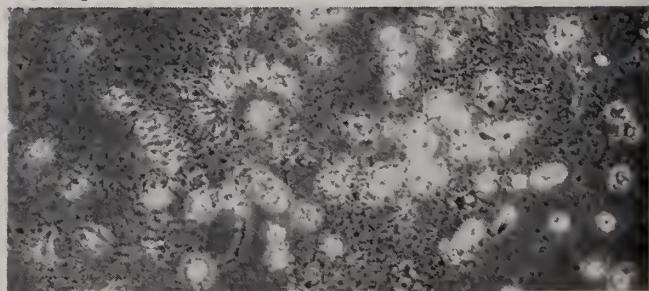
**Viscous cervical mucus at midcycle produced by Norinyl-1 appears to impair sperm vitality... inhibit penetration.**



Cervical mucus is scanty, thick and viscous. Spinnbarkeit is 1 cm. or less.



In thick, viscous cervical mucus the fern pattern is poorly defined or absent.



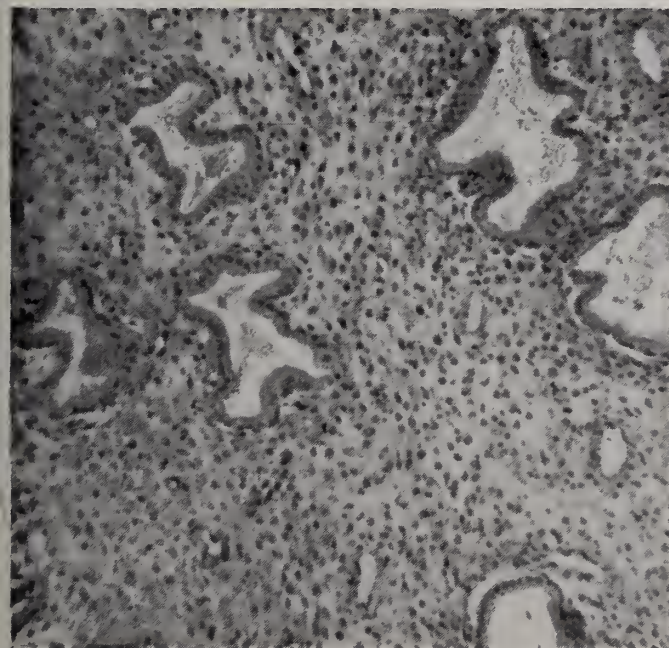
Immobile spermatozoa as they appear in cervical mucus taken from a patient treated with Norinyl-1.



# How Norinyl-1 alters normal endometrial responses— another possible protective mechanism

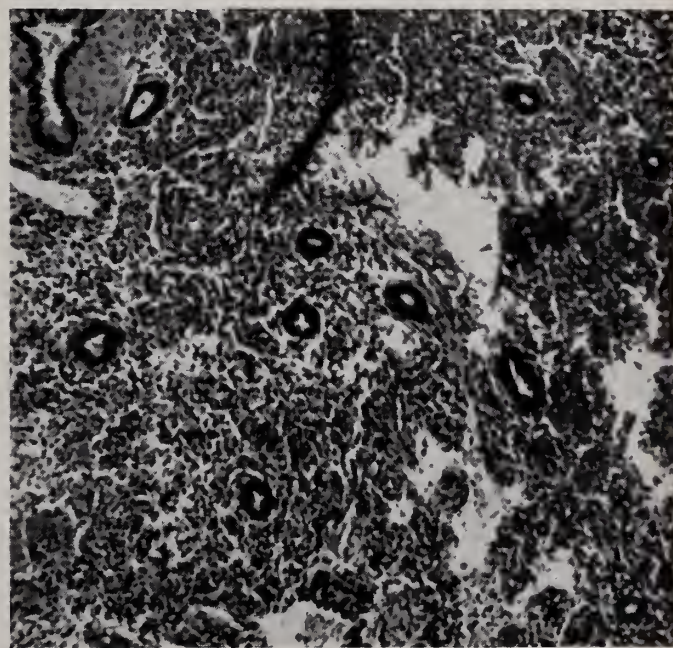
Let us suppose that an ovum is released—as occurs in an occasional, rare case—and somehow a sperm succeeds in penetrating the cervical mucus barrier. Should this come about, one additional action of Norinyl-1 may protect the patient from unwanted pregnancy. The theory is that progestogen intake makes endometrial tissue unreceptive to implantation.

Endometrium of  
untreated patient



Normally, the endometrium progresses through a proliferative phase stimulated by estrogen and a secretory phase stimulated by progesterone. During the secretory phase the endometrium is receptive to the fertilized ovum.

Endometrium produced  
by Norinyl-1



When Norinyl-1 is administered its progestogen component—norethindrone—accelerates the secretory phase and suppresses glandular and vascular development.

<sup>new</sup>  
**Norinyl-1**  
(norethindrone 1mg, ♂ mestranol 0.05mg) **tablets**

effective fertility control  
on half the previous dosage  
maintains ratio  
of the established  
norethindrone/mestranol  
combination  
lower cost

# new Norinyl-1<sup>®</sup> (norethindrone 1mg. $\bar{c}$ mestranol 0.05mg.) tablets

Reduction of oral contraceptive dosage to lowest effective levels has become a well-accepted principle of conservative medical practice. In keeping with this view, Norinyl is now available in a new strength in which both norethindrone and mestranol are reduced 50 percent. Studies show that Norinyl-1 achieves fertility control with only 1.05 mg. of combined progestogen and estrogen per tablet.

Norethindrone was first reported for use as a progestational agent in human beings in 1955. Norethindrone 2 mg. with mestranol 0.1 mg., as an oral contraceptive, is currently in use by over 2,000,000 women. Clinical experience now establishes that Norinyl-1 also amply meets the criteria of reliability and safety.\*

\*Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965.

## PREScribing INFORMATION

**Contraindications:** 1. Patients with thrombophlebitis or with a history of thrombophlebitis or pulmonary embolism. 2. Liver dysfunction or disease. 3. Patients with known or suspected carcinoma of the breast or genital organs. 4. Undiagnosed vaginal bleeding.

**Warnings:** 1. Discontinue medication pending examination if there is sudden partial or complete loss of vision or if there is a sudden onset of proptosis, diplopia, or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn. 2. Since the safety of Norinyl-1 in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods, pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule, the possibility of pregnancy should be considered at the time of the first missed period. 3. Detectable amounts of the active ingredients in oral contraceptives have been identified in the milk of mothers receiving these drugs. The significance of this dose to the infant has not been determined.

**Precautions:** 1. The pretreatment physical examination should include special reference to breast and pelvic organs, as well as a Papanicolaou smear. 2. Endocrine and possibly liver function tests may be affected by treatment with Norinyl-1. Therefore, if such tests are abnormal in a patient taking Norinyl-1, it is recommended that they be repeated after the drug has been withdrawn for 2 months. 3. Under the influence of estrogen-progestogen preparations, preexisting uterine fibroids may increase in size. 4. Because these agents may cause some degree of fluid retention, conditions that may be influenced by this factor, such as epilepsy, migraine, asthma, cardiac, or renal dysfunction, require careful observation. 5. Although a cause and effect relationship has not been established, Norinyl-1 should be used with caution in patients with a history of cerebrovascular accident. 6. In relation to breakthrough bleeding, as in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In cases of undiagnosed vaginal bleeding, adequate diagnostic measures are

indicated. 7. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. 8. Any possible influence of prolonged Norinyl-1 therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. 9. A decrease in glucose tolerance has been observed in a small percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Norinyl-1 therapy. 10. Because of the occasional occurrence of thrombophlebitis and pulmonary embolism in patients taking oral contraceptives, the physician should be alert to the earliest manifestations of the disease. A cause and effect relationship has not been demonstrated. 11. Because of the effects of estrogens on epiphyseal closure, Norinyl-1 should be used judiciously in young patients in whom bone growth is not complete. 12. The age of the patient constitutes no absolute limiting factor, although treatment with Norinyl-1 may mask the onset of the climacteric. 13. The pathologist should be advised of Norinyl-1 therapy when relevant specimens are submitted.

**Side Effects:** The following adverse reactions have been observed with varying incidence in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms, breakthrough bleeding, spotting, change in menstrual flow, amenorrhea, edema, chloasma, breast changes (tenderness, enlargement and secretion), loss of scalp hair, change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately postpartum, cholestatic jaundice, erythema multiforme, erythema nodosum, hemorrhagic eruption, migraine, rash (allergic), itching, rise in blood pressure in susceptible individuals, mental depression.

The following occurrences have been observed in users of oral contraceptives. A cause and effect relationship has not been established: thrombophlebitis, pulmonary embolism, neuroocular lesions.

The following laboratory results may be

altered by the use of oral contraceptives: increased bromsulphalein retention and other hepatic function tests, coagulation tests (increase in prothrombin, factors VII, VIII, IX and X), thyroid function (increase in PBI and butanol extractable protein-bound iodine and decrease in T<sub>3</sub> values), metapyrone test, pregnandiol determination.

Other side effects reported to have occurred in association with use of this drug are dizziness, hirsutism, pains in legs, back, chest and abdomen, dysuria, drowsiness, vaginal discharge, libido increased and decreased, eruptions, hypermenorrhea, hypomenorrhea, increased appetite, G.U. infections, varicose veins, abdominal fullness, acne, headache, nervousness, allergies, blurred vision, pain in eyes, and itching in eyes. For complete clinical data, see package insert.

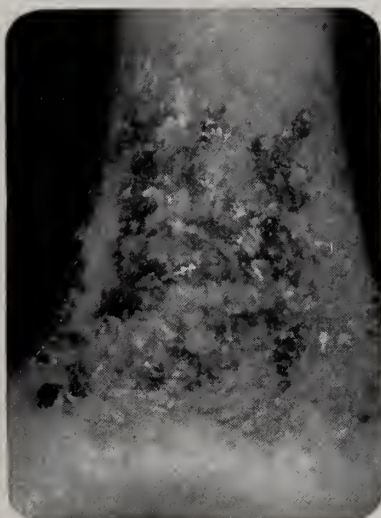
**Dosage and Administration:** 1. One tablet of Norinyl-1 is administered orally for 20 days beginning on day 5 of the menstrual cycle. (Count day 1 of the cycle as the first day of menstrual bleeding.) Repeat this dosage schedule for each cycle. 2. If no menstrual period occurs after a cycle of treatment (20 tablets) in which patient adhered to the schedule, the patient must be instructed to resume taking the Norinyl-1 tablets 7 days after the previous 20-day course was completed. For example, if the last pill of a previous cycle had been taken on a Sunday, then a new cycle of treatment should begin on the following Sunday. 3. In the postpartum woman, it is recommended that the first cycle of treatment should begin on day 5 of the first menstrual cycle. However, Norinyl-1 should not be administered during lactation.

**Availability:** Norinyl-1 (norethindrone 1 mg. with mestranol 0.05 mg.)—Dispensers of 20 and 60 and bottles of 250 tablets.

norethindrone — an original steroid from  
**SYNTEX**  
LABORATORIES INC., PALO ALTO, CALIF.



# Eczema of many years... controlled in two weeks



Before treatment



After treatment —  
with ARISTOCORT Topical  
Ointment 0.1% for two weeks

ARISTOCORT® Triamcinolone Acetonide Topicals have proved exceptionally effective in the control of various forms of eczema: allergic, atopic, nummular, psoriatic, and mycotic.

In most cases responsive to topical ARISTOCORT, the 0.1% concentration is sufficiently potent. The 0.5% concentration provides enhanced topical activity for patients requiring additional potency for proper relief.

**Administration and Dosage:** Apply sparingly to the affected area 3 or 4 times daily. Some cases of psoriasis may be more effectively treated if the 0.1% Cream or Ointment is applied under an occlusive dressing.

**Contraindications:** Tuberculosis of the skin, herpes simplex, chicken pox and vaccinia.

**Precautions and Side Effects:** Do not use in the eyes or in the ear (if drum is perforated). A few individuals react unfavorably under certain conditions. If side

effects are encountered, the drug should be discontinued and appropriate measures taken. Use on infected areas should be attended with caution and observation, bearing in mind the potential spreading of infection and the advisability of discontinuing therapy and/or initiating antibacterial measures. Generalized dermatological conditions may require systemic corticosteroid therapy. Steroid therapy, although responsible for remissions of dermatoses, especially of allergic origin cannot be expected to prevent recurrence. The use over extensive body areas, with or without occlusive non-permeable dressings, may result in systemic absorption. Appropriate precautions should be taken. When occlusive nonpermeable dressings are used, miliaria, folliculitis and pyoderma will sometimes develop. Localized atrophy and striae have been reported with the use of steroids by the occlusive technique. When occlusive nonpermeable dressings are used, the physician should be aware of the hazards of suffocation and flammability. The safety of use on pregnant patients has not been firmly established. Thus, do not use in large amounts or for long periods of time on pregnant patients.

Available in 5 Gm. and 15 Gm. tubes and ½ lb. jars.

PHOTOGRAPHS COURTESY OF M. M. NIERMAN, M.D.

## Aristocort®

Topical Ointment 0.1% and Cream 0.1%, 0.5%  
Triamcinolone Acetonide

Also available in foam form.



LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

406-G





# This pain is getting on my nerves.

Patients in pain often experience concomitant anxiety and tension, which may add to the burden of pain.

For such patients, you may want to prescribe a preparation that offers more than simple analgesia.

A good choice is often EQUAGESIC® (meprobamate and ethoheptazine citrate with aspirin). It helps relieve pain. And anxiety. And skeletal muscle spasm as related to pain or anxiety and tension.

## Equagesic® TABLETS

(meprobamate and ethoheptazine  
citrate with aspirin)



**Contraindications:** History of sensitivity or severe intolerance to aspirin or meprobamate.

**Warnings:** USE IN PREGNANCY: Safety for use during pregnancy or lactation has not been established; therefore it should be used in pregnant patients or women of child-bearing age only when the physician judges its use essential to the patient's welfare.

**Precautions:** Keep out of reach of children. Not recommended for patients 12 years old or less. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use of meprobamate may result in dependence or habituation in susceptible persons—as alcoholics, ex-addicts, severe psychoneurotics. Withdraw gradually after prolonged high dosage to avoid possibly severe withdrawal reactions including epileptiform seizures. Warn patients of possible reduced alcohol tolerance. If drowsiness, ataxia or visual disturbances (impairment of accommodation and visual acuity) occur, reduce dose. If symptoms persist, caution patients against operating machinery or driving. After meprobamate overdose, prompt sleep, reduction of blood pressure, pulse and respiratory rates to basal levels, and hyperventilation are reported. Give cautiously to patients with suicidal tendencies. Treat attempted suicide (has resulted in coma, shock, vasomotor and respiratory collapse and anuria) with immediate gastric lavage and appropriate supportive therapy (CNS stimulants and pressor amines as indicated).

**Side Effects:** Ethoheptazine and aspirin may occasionally cause nausea, vomiting, epigastric distress, and rarely dizziness. Overdosage may result in CNS depression (drowsiness and lightheadedness) or CNS stimulation and salicylate intoxication (requires induced vomiting or gastric lavage, specific parenteral electrolyte therapy for ketoacidosis and dehydration, and observation for hypoprothrombinemic hemorrhage [usually requires whole blood transfusions]). Meprobamate may cause drowsiness, ataxia and rarely allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. If allergic reaction occurs, meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angio-neurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Treat symptomatically such as with epinephrine, antihistamine and possibly hydrocortisone. A few cases of leucopenia, usually transient, have been reported following continuous use. Rarely, cases of aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia have been reported; almost always, in the presence of known toxic agents.

**Composition:** 150 mg. meprobamate, 75 mg. ethoheptazine citrate and 250 mg. aspirin per tablet.

Wyeth Laboratories Philadelphia, Pa.



# In peptic ulcer... antacid therapy with a new benefit



CONTAINS A BALANCED  
COMBINATION  
OF THE MOST WIDELY  
USED ANTACIDS—  
FOR RAPID  
NEUTRALIZATION.  
PLUS SIMETHICONE—  
TO CONTROL  
THE FACTOR WHICH  
ANTACIDS ALONE  
CANNOT INFLUENCE.

## Mylanta<sup>®</sup>

- In Mylanta, aluminum and magnesium hydroxides are balanced to minimize the chance of constipation or laxation and still achieve rapid acid neutralization and pain relief.
- The positive action of simethicone helps relieve the painful gas symptoms which often accompany the peptic ulcer syndrome.
- The nonfatiguing flavor and smooth, nongritty consistency of tablets and liquid encourage continued patient cooperation during long-term therapy.

**Composition:** Each Mylanta chewable tablet or teaspoonful (5 ml.) of liquid contains: magnesium hydroxide, 200 mg.; aluminum hydroxide, dried gel, 200 mg.; simethicone, 20 mg. **Dosage:** one or two tablets, well chewed or allowed to dissolve in the mouth, or one or two teaspoonfuls of liquid to be taken between meals and at bedtime.

The Stuart Company, Pasadena, California  
Division of Atlas Chemical Industries, Inc.

**Stuart**

# Dulcolax<sup>®</sup>

bisacodyl

DU-5235

Few drugs work as predictably as Dulcolax. You can expect that when your office patient takes Dulcolax at home, it will be as effective as you said it would be. Your patient will be gratified, too.

The reliability of Dulcolax stems from its unique mode of action. The drug works directly on nerve endings in the colonic mucosa, producing normal peristalsis throughout the large intestine. It does not rely on systemic absorption for its effect.

This reliable action provides prompt relief of constipation. It also makes Dulcolax par-

ticulary useful for prepping the bowel for special procedures. In short, it makes Dulcolax ideal for your office practice.



Dulcolax acts so surely that the time of evacuation can often be closely predicted. Dulcolax tablets taken at night almost invariably result in a bowel movement soon after waking the following morning. Dulcolax suppositories generally work in 15 to 20 minutes, almost always within the hour.

**General Dosage Information:** *Adults:* When an ordinary laxative effect is desired, 1 to 3 tablets or 1 suppository usually suffices. Tablets must be swallowed whole, not chewed or crushed, and should not be taken within one hour of antacids or milk. *Children:* 1 or 2 tablets, depending on age and severity of condition. Tablets must not be given to a child too young to swallow them whole. For infants and children under 2 years of age, half a suppository is usually effective. Above this age a whole suppository is usually advisable. **Side Effects:** As with any laxative, abdominal cramps are occasionally noted, particularly in

severely constipated persons. High dosage may result in loose, unformed stools. **Contraindication:** Contraindicated only in acute surgical abdomen. **Availability:** Tablets (5 mg.) and suppositories (10 mg.). By prescription or recommendation.

Under license from Boehringer Ingelheim G.m.b.H.

Geigy Pharmaceuticals  
Division of Geigy Chemical Corporation, Ardsley, N.Y.



# You may be prescribing Hygroton<sup>®</sup>, chlorthalidone

You usually prescribe one tablet daily, but every once in a while you like to cut the dosage. So instead of giving the 100 mg. tablet every other day or breaking it in half, why not prescribe the new half-strength tablet every day?

See next page for a brief precautionary statement.



but you  
don't know the  
half of it.

**New HYgroton  
50 mg.**

For a clinical supply,  
please mail us this coupon  
with one of your  
prescription blanks.



Geigy Pharmaceuticals  
Division of  
Geigy Chemical Corporation  
Ardsley, New York 10502

# Broad scope diuretic

**Hygroton®**  
chlorthalidone

Geigy

Hygroton is indicated in certain conditions where the newer nonthiazide diuretics are not recommended, e.g. hypertension, edema of pregnancy, premenstrual edema, edema in obesity states, steroid edema.

However, the newer diuretics are probably superior to Hygroton in acute pulmonary edema and the nephrotic syndrome or any condition where the glomerular filtration rate is significantly low.

## Indications

### Hypertension

**Such as hypertension with or without congestive failure, where Hygroton can be used alone or in conjunction with other agents**

(*Precaution:* Antihypertensive therapy with Hygroton should always be initiated cautiously in post-sympathectomy patients and in patients receiving ganglionic blocking agents or other potent anti-hypertensive drugs, or curare. Reduce dosage of concomitant antihypertensive agents by at least one-half. Barbiturates, narcotics or alcohol may potentiate hypotension.)

### Edema

**Such as edema associated with: congestive heart failure or renal disease**

(*Precaution:* Because of the possibility of progression of renal damage, periodic determination of the BUN is indicated. Discontinue if the BUN rises.)

**or hepatic cirrhosis**

(Hypoproteinemia, if present, must be corrected concomitantly.)

*Precaution:* Take special care: discontinue if liver dysfunction is aggravated, since hepatic coma may be precipitated.)

**or steroid administration**

**or obesity**

**or the premenstrual syndrome**

**or pregnancy, including toxemia**

(*Warning:* Use with caution in pregnant patients, since the drug may cross the placental barrier and adverse reactions which may occur in the adult, e.g. thrombocytopenia, hyperbilirubinemia, altered carbohydrate metabolism, etc., are potential problems in the newborn.)

## Contraindications

**Severe Renal or Hepatic Disease and Demonstrated Hypersensitivity**

## Other general warnings, precautions and adverse reactions

*Warning:* With the administration of enteric-coated potassium supplements, which should be used only when adequate dietary supplementation is not practical, the possibility of small bowel lesions (obstruction, hemorrhage, and perforation) should be kept in mind. Surgery for these lesions has frequently been required and deaths have occurred. Discontinue enteric-coated potassium supplements immediately if abdominal pain, distention, nausea, vomiting, or gastrointestinal bleeding occur.

*Precautions:* Electrolyte imbalance, sodium and/or potassium depletion may occur. If potassium depletion should occur during therapy, Hygroton should be discontinued and

potassium supplements given, provided the patient does not have marked oliguria.

Take special care in severe ischemic heart disease and in patients receiving corticosteroids, ACTH, or digitalis. Salt restriction is not recommended.

*Adverse reactions:* Nausea, gastric irritation, vomiting, anorexia, constipation and cramping, dizziness, weakness, restlessness, hyperglycemia, hyperuricemia, headache, muscle cramps, orthostatic hypotension, aplastic anemia, leukopenia, thrombocytopenia, agranulocytosis, dysuria, impotence, transient myopia, skin rashes, urticaria, purpura, necrotizing angitis, acute gout, and pancreatitis when epigastric pain or unexplained G.I. symptoms develop after prolonged administration. Other reactions reported with this class of compounds include: jaundice, xanthopsia, paresthesia, and photosensitization.

*Average Dosage:* 50-100 mg. with breakfast daily.

*Availability:* White, single-scored tablets of 100 mg. and aqua tablets of 50 mg. in bottles of 100 and 1000.

Please see full Prescribing Information

Geigy Pharmaceuticals  
Division of Geigy Chemical Corporation  
Ardsley, New York 10502



**IN EMPHYSEMA**

**THE  
'EASY-TO-TAKE'  
AMINOPHYLLINE**

# Aminophylline **dura-tabs<sup>®</sup>**

prolonged-medication tablets 4½ gr. (0.3 Gm.)

*Precautions:* Use with caution in patients with poor renal function as a decreased rate of excretion may lead to accumulation and untoward reactions. Gastric irritation may occasionally be observed in certain patients sensitive to oral aminophylline.

*Dosage:* Adults, 1 to 2 Aminophylline Dura-Tabs each 8 or 12 hours, with food.

## **RARELY UPSET THE STOMACH**

Oral aminophylline needn't disturb the stomach—nor a good night's sleep. Patients breathe easier all day, sleep better all night, as each Aminophylline Dura-Tab dose provides effective therapeutic activity for up to 12 hours. And unlike conventional tablets, AMINOPHYLLINE DURA-TABS seldom cause gastric distress. The special Dura-Tab process allows the gradual absorption of the medication from the intestinal tract with only a small fraction of the dose released in the stomach.

**WYNN Pharmaceuticals, Inc. Phila., Pa. 19132 • Manufacturers of QUINAGLUTE<sup>®</sup> DURA-TABS<sup>®</sup>**  
(QUINIDINE SULFONATE 5 gr.)



# Synirin®

ACETYSALICYLIC ACID (ASPIRIN)..... 5 GR.  
 \*PENTOBARBITAL (ACID)..... 1/8 GR.  
 \*Warning: may be habit-forming

Synirin provides prompt barbiturate potentiation of aspirin without limiting the therapeutic usage of aspirin. Both pentobarbital and aspirin begin their action together promptly and last 4 or 5 hours. There is no accumulation.

LITERATURE AND CLINICAL SUPPLY AVAILABLE TO PHYSICIANS

*SYNIRIN is another  
 pharmaceutical achievement*



W.M. P. POYTHRESS & CO., INC.  
 RICHMOND, VIRGINIA 23217  
*Manufacturers of ethical pharmaceuticals since 1856*

# VALIUM® (diazepam)Roche®

Before prescribing, please consult complete product information, a summary of which follows:

**Contraindications:** Infants, patients with history of convulsive disorders, glaucoma or known hypersensitivity to drug.

**Warning:** Not of value in the treatment of psychotic patients, and should not be employed in lieu of appropriate treatment.

**Precautions:** Limit dosage to smallest effective amount in elderly or debilitated patients (not more than 1 mg, one or two times daily initially) to preclude ataxia or oversedation, increasing gradually as needed or tolerated. As is true of all CNS-acting drugs, until correct maintenance dosage is established, advise patients against possibly hazardous procedures requiring complete mental alertness or physical coordination. Driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. If such combination therapy is used, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of Valium (diazepam), such as phenothiazines, barbiturates, MAO inhibitors and other antidepressants. Advise patients against simultaneous ingestion of alcohol or other CNS depressants. Safe use in pregnancy not established. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Observe usual precautions in impaired renal or hepatic function. Periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.

**Side Effects:** Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash; paradoxical reactions (excitement, depression, stimulation, sleep disturbances, acute hyperexcited states, hallucinations); changes in EEG patterns during and after drug treatment. Abrupt cessation after prolonged overdosage may produce withdrawal symptoms (convulsions, tremor, abdominal and muscle cramps, vomiting, sweating) similar to those seen with barbiturates, meprobamate and chlordiazepoxide HCl.

**Dosage—Adults:** Mild to moderate psychoneurotic reactions, 2 to 5 mg b.i.d. or t.i.d.; severe psychoneurotic reactions, 5 to 10 mg t.i.d. or q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; muscle spasm with cerebral palsy or athetosis, 2 to 10 mg t.i.d. or q.i.d. *Geriatric patients:* 1 or 2 mg/day initially, increase gradually as needed and tolerated. (See Precautions)

**Supplied:** Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 50 and 500.



**Roche Laboratories**  
 Division of  
 Hoffmann - La Roche Inc.  
 Nutley, N.J. 07110



## IMPORTANT NEW INSIGHTS INTO HUMAN RESPONSE TO EMOTIONAL STRESS:

New confirmation of the effectiveness of  
Valium® (diazepam)

Ask your Roche representative to arrange a presentation of this important and fascinating research into certain somatic responses to emotional stress . . . quantitative, objective measurement with double-blind controls.

*Please see opposite page for important describing information.*







Photo professionally posed

## Mike expects a penicillin injection. He's about to be pleasantly surprised.

His physician is going to prescribe an oral penicillin—PEN·VEE® K (potassium phenoxymethyl penicillin). It's usually so rapidly and completely absorbed that therapeutic serum levels are produced in 15 to 30 minutes. Higher serum levels generally last longer than with oral penicillin G.

**Indications:** Infections susceptible to oral penicillin G: prophylaxis and treatment of streptococcal infections; treatment of pneumococcal, gonococcal, and susceptible staphylococcal infections; prophylaxis of rheumatic fever in patients with a previous history of the disease.


**Contraindications:** Infections caused by nonsusceptible organisms; history of penicillin sensitivity.

**Warnings:** Acute anaphylaxis (may prove fatal unless promptly controlled) is rare but more frequent in patients with previous penicillin sensitivity, bronchial asthma or other allergies. Resuscitative (epinephrine, aminophylline, pressor amines) and supportive (antihistamines, methylprednisolone sodium succinate) drugs should be readily available. Other rare hypersensitivity reactions include nephropathy, hemolytic anemia, leucopenia and thrombocytopenia. In suspected hypersensitivity, evaluation of renal and hematopoietic systems is recommended.

**Precautions:** In suspected staphylococcal infections, perform proper laboratory studies including sensitivity tests. If overgrowth of nonsusceptible organisms occurs (constant observation is essential), discontinue penicillin and take appropriate measures. Whenever allergic reactions occur, withdraw penicillin unless condition being treated is considered life threatening and amenable only to penicillin. Penicillin may delay or prevent appearance of primary syphilitic lesions. Gonorrhea patients suspected of concurrent syphilis should be tested serologically for at least 3 months. When lesions of primary syphilis are suspected, dark-field examination should precede use of penicillin. Treat beta-hemolytic streptococcal infections with full therapeutic dosage for at least 10 days to prevent rheumatic fever or glomerulonephritis. In staphylococcal infections, perform surgery as indicated.

**Adverse Reactions** (Penicillin has significant index of sensitization): Skin rashes, ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; serum sickness-like reactions, including chills, fever, edema, arthralgia and prostration. Severe and often fatal anaphylaxis has been reported (see "Warnings").

**Composition:** Tablets—125 mg. (200,000 units), 250 mg. (400,000 units), 500 mg. (800,000 units); Liquid—125 mg. (200,000 units) and 250 mg. (400,000 units) per 5 cc.

ORAL **PEN·VEE® K**  
(potassium phenoxymethyl penicillin) 



# Night Leg Cramps . . . Unwelcome Bedfellow In Diabetes,<sup>1</sup> Arthritis,<sup>2</sup> and Peripheral Vascular Disorders<sup>2</sup>

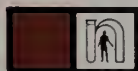


now . . . specific therapy for night leg cramps

*Walker*

# QUINAMM<sup>TM</sup>

Consistently effective, QUINAMM provided complete relief in 94% of 200 patients studied, many of whom were severe cases refractory to other medication.<sup>3</sup> Your prescription for one tablet at bedtime often controls painful night cramps with the initial dose . . . helps restore restful sleep.



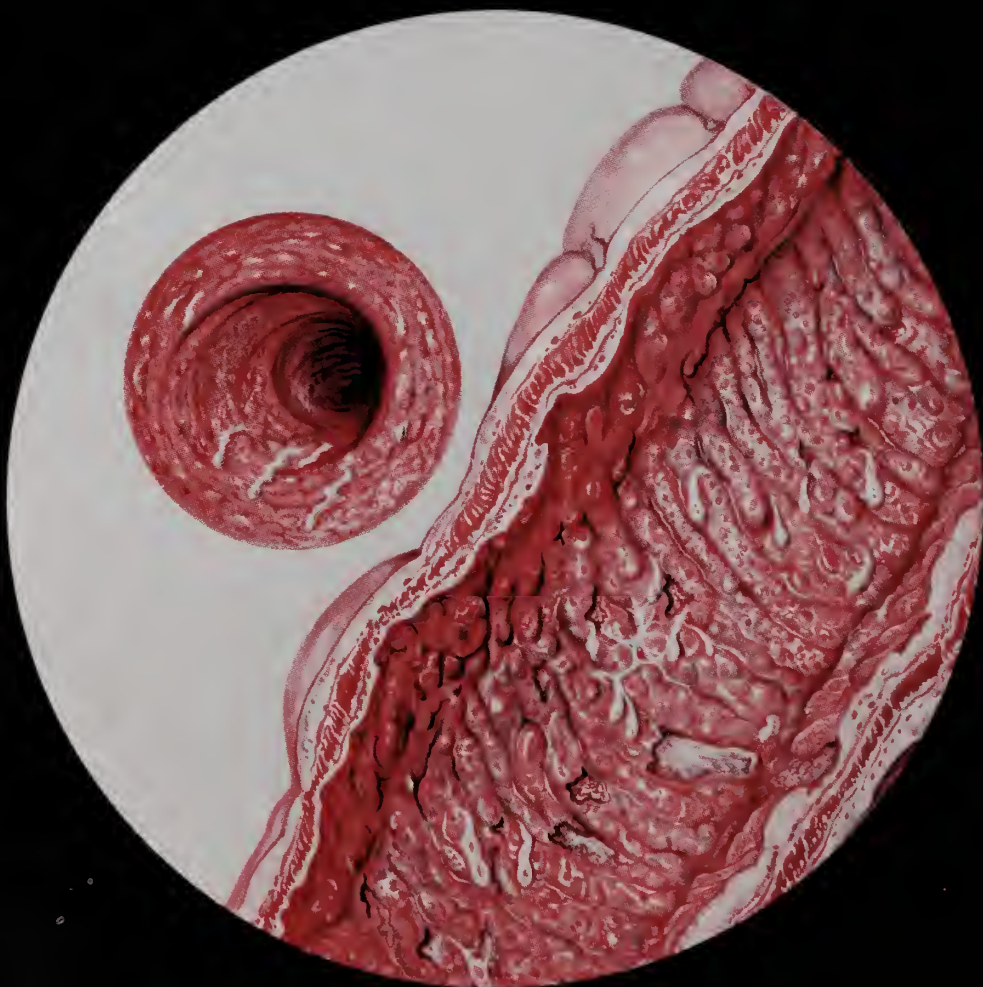
THE NATIONAL DRUG COMPANY  
DIVISION OF RICHARDSON MERRELL INC  
PHILADELPHIA, PENNSYLVANIA 19144

**Prescribing Information:** **Composition:** Each white, beveled, compressed tablet contains: Quinine Sulfate 260 mg. and Aminophylline 195 mg. **Contraindication:** QUINAMM is contraindicated in pregnancy because of its quinine content. **Precautions:** Aminophylline may produce intestinal cramps in some instances, and quinine may produce symptoms of cinchism, such as tinnitus, dizziness, and gastrointestinal disturbance. Discontinue use if ringing in the ears, deafness, skin rash, or visual disturbances occur. **Dosage:** One tablet upon retiring. Where necessary, dosage may be increased to one tablet following the evening meal and one tablet upon retiring. **Supplied:** Bottles of 100 and 500 tablets. **References:** 1. Shuman, C.: Am. J. Med. Sci., 225:54, 1953. 2. Perchuk, E., et al.: Angiology, 12:102, 1961. 3. Rawls, W., et al.: Med. Times, 87:818, 1959. 6/67 Q-706A

# even in ulcerative colitis...

characterized by:

- diarrhea, cramps, tenesmus
- bloody, mucoid, purulent stools



# LOMOTIL<sup>®</sup> tablets/liquid

Each tablet and each 5 cc. of liquid contains:  
diphenoxylate hydrochloride . . . . 2.5 mg.  
(Warning: May be habit forming)  
atropine sulfate . . . . . 0.025 mg.







## controls diarrhea



In six published studies<sup>1-6</sup> detailed results are given on the use of Lomotil in 111 patients with chronic ulcerative colitis. They show that Lomotil gave satisfactory to "excellent" control of diarrhea in more than two-thirds of these patients. As the disorder advances and destroys bowel musculature, the motility-lowering action of Lomotil, understandably, has less effect.

*For correct therapeutic effect  
Rx correct therapeutic dosage*

**Dosage:** The recommended initial daily dosages, given in divided doses until diarrhea is controlled, are:

**Children: Total Daily Dosage**

3-6 mo. . . ½ tsp.\* t.i.d. (3 mg.)   
6-12 mo. . ½ tsp. q.i.d. (4 mg.)   
1-2 yr. . . ½ tsp. 5 times daily (5 mg.)   
2-5 yr. . . 1 tsp. t.i.d. (6 mg.)   
5-8 yr. . . 1 tsp. q.i.d. (8 mg.)   
8-12 yr. . 1 tsp. 5 times daily (10 mg.) 

**Adults:** 2 tsp. 5 times daily (20 mg.)   
or 2 tablets q.i.d. 

\*Based on 4 cc. per teaspoonful.

Maintenance dosage may be as low as one-fourth the initial daily dosage.

**Precautions:** Lomotil is a federally exempt narcotic preparation of very low addictive potential. Recommended dosages should not be

The successful use of Lomotil in a disorder as exceedingly difficult to treat as moderate ulcerative colitis emphasizes again its unsurpassed antidiarrheal effectiveness in these more common conditions:

- Gastroenteritis
- Acute infections
- Spastic colon
- Drug induced diarrhea
- Functional hypermotility

exceeded, and medication should be kept out of reach of children. Should accidental overdosage occur signs may include severe respiratory depression, flushing, lethargy or coma, hypotonic reflexes, nystagmus, pinpoint pupils and tachycardia. Lomotil should be used with caution in patients with impaired liver function or those taking addicting drugs or barbiturates.

**Side Effects:** Side effects are relatively uncommon but among those reported are gastrointestinal irritation, sedation, dizziness, cutaneous manifestations, restlessness, insomnia, numbness of the extremities, headache, blurring of vision, swelling of the gums, euphoria, depression and general malaise.

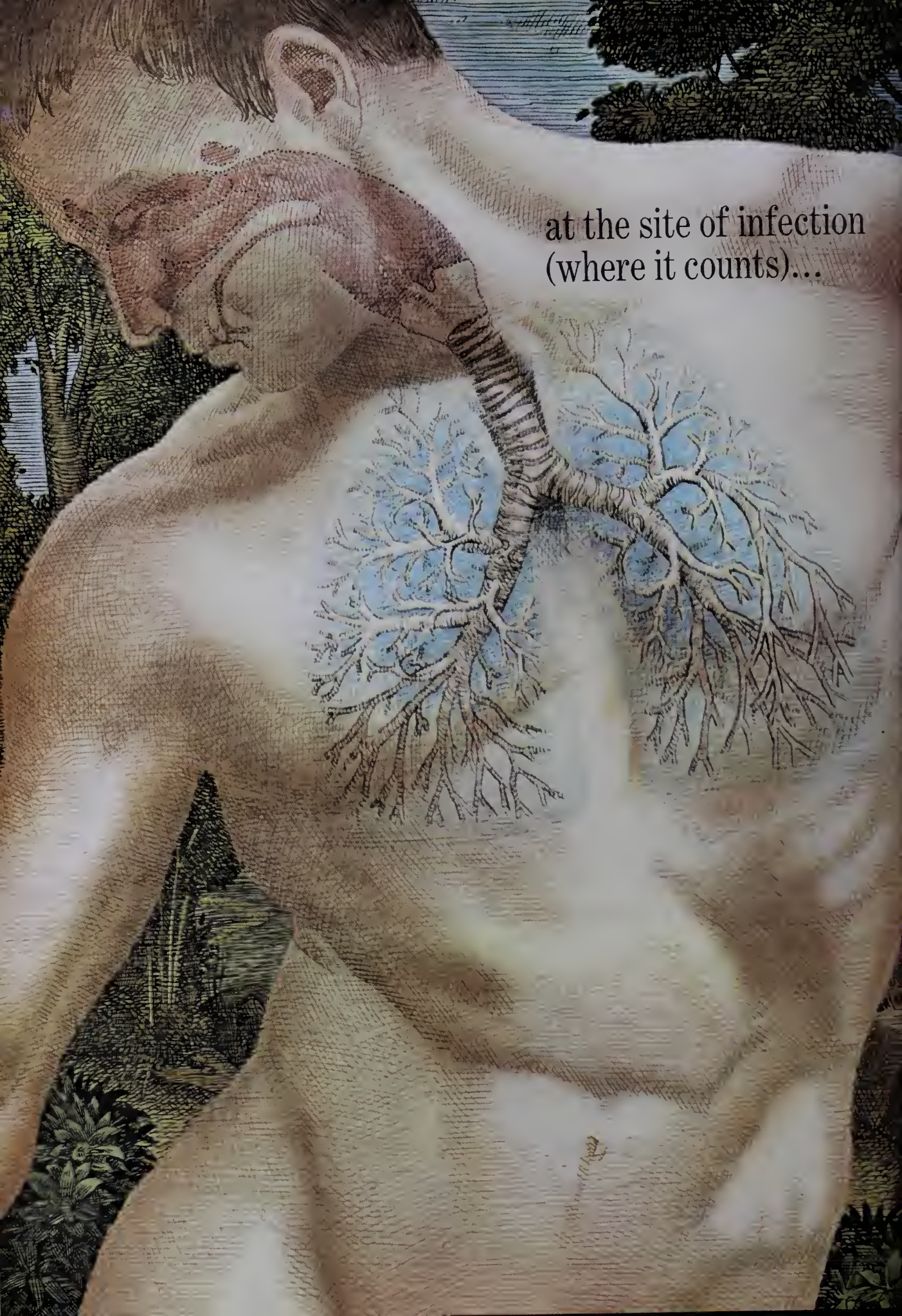
1. Barowsky, H., and Schwartz, S. A.: J.A.M.A. 180:1058-1061 (June 23) 1962. 2. Cayer, D., and Sohmer, M. F.: N. Carolina Med. J. 22:600-604 (Dec.) 1961. 3. Hock, C. W.: J. Med. Ass. Georgia 50:485-488 (Oct.) 1961. 4. Van Derstappen, G., and Vandenbroucke, G.: Med. Klin. 56:962-964 (June 2) 1961. 5. Merlo, M., and Brown, C. H.: Amer. J. Gastroent. 34:625-630 (Dec.) 1960. 6. Weingarten, B.; Weiss, J., and Simon, M.: Amer. J. Gastroent. 35:628-633 (June) 1961.

**SEARLE**

Research in the Service of Medicine



at the site of infection  
(where it counts)...





# Ilosone® provides more antibacterial activity than any other oral erythromycin

**Acid stable, better absorbed... Ilosone produces faster, higher, more prolonged blood levels, even in the presence of food<sup>1,3</sup>**

Because it is the most active form of oral erythromycin, Ilosone can help assure consistently greater antibacterial activity at the site of infection. Ilosone produces peak antibacterial blood levels two to four times those of other erythromycin preparations.<sup>1,2</sup> Not only are these levels attained earlier, but they are maintained for much longer periods. Even the presence of food does not seem to affect the activity of Ilosone.<sup>1,3</sup>

In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels

attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

**Now available:**

New! Ready-mixed Ilosone Liquid 125!  
(Contains erythromycin estolate equivalent to 125 mg. erythromycin base per 5-cc. teaspoonful.)

**Ilosone®**  
Erythromycin Estolate



*(See next page for prescribing information.)*

# Ilosone®/the most active oral form of erythromycin

**Description:** Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

**Indications:** Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have also been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone. **Contraindications:** Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with pre-existing liver disease or dysfunction.

**Adverse Reactions:** Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have developed in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly, usually within forty-eight hours, if the drug is readministered to sensitive patients. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to be definitely related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalin flocculation and thymol turbidity tests, elevated serum glutamic oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has not been reported in other patients taking prolonged courses of the medication. Patients with chronic infection have been given 1 to 2 Gm. of the drug daily for periods of two to six months, and patients with rheumatic fever have taken prophylactic doses of 0.5 Gm. daily for two years without difficulty. In one group of 144 patients who received the drug daily for two years, no jaundice was noted. It was of interest that members of six of these patients' families, who were not taking the drug, had episodes of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels were determined in a group of fifty-four adults and children who took 250 mg. of Ilosone daily for an average of sixteen months as a rheumatic fever prophylaxis. The results were compared with those of a similar group of forty-four patients who received penicillin. There were no cases of jaundice in either group. Elevation of SGPT and serum alkaline phosphatase levels during the course of treatment was observed in one patient treated with Ilosone and in two patients treated with penicillin. Seven other patients in the group receiving Ilosone and four others in the penicillin group showed elevations in one of the tests at some time during administration of the drugs.

Very satisfactory therapeutic results, without toxicity, were reported in 102 pediatric patients who received short-term (ten day) courses of Ilosone in the treatment of streptococcus infections. Results of liver function tests in these patients were comparable to those in a similar control group who had received penicillin.

Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of individuals as a result of a local stimulating effect of the medication on the alimentary tract; however, the normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the use of erythromycin, there have been occasional reports of urticarial skin eruptions, and, on rare occasions, anaphylaxis.

**Administration and Dosage:** Ilosone is administered orally.

Ilosone Pulvules®, Ilosone Liquid 125, Ilosone, 125, for Oral Suspension, Ilosone Drops, Ilosone Chewable Tablets.

For infants and for children under twenty-five pounds of body weight, the usual dosage is 5 mg. per pound every six hours; for children twenty-five to fifty pounds, 125 mg. every six hours (Tablets Ilosone Chewable should be chewed or crushed and swallowed with water.)

For adults and for children over fifty pounds, the usual dosage of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromycin therapy should be considered.

In the treatment of syphilis, the recommended total dosage is 20 to 30 Gm. given in divided doses for a period of ten to fifteen days. Close follow-up of the patient is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examinations of spinal fluid are recommended as part of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days is recommended. In the treatment of gonorrhea, patients with suspected lesion of syphilis should have a dark-field examination before receiving antibiotics, and monthly serologic tests should be made for a period of three months.

**How Supplied:** Pulvules Ilosone, Capsules, N.F., 125 and 250 mg. (equivalent to base), in bottles of 24 and 100.

Ilosone Liquid 125, Oral Suspension, U.S.P., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60-cc. and pint-size packages. Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60 and 150-cc.-size packages.

Ilosone Drops, 5 mg. (equivalent to base) per drop, in 10-cc.-size packages, with dropper calibrated at 25 and 50 mg.

Tablets Ilosone Chewable, N.F., 125 mg. (equivalent to base) in bottles of 50.

**References:** 1. Griffith, R. S., and Black, H. R.: *Am. J. M. Sc.*, 247:69, 1956. 2. Griffith, R. S., and Black, H. R.: *Antibiotics & Chemotherapy*, 12:398, 1958. 3. Hirsch, H. A., Pyles, C. V., and Finland, M.: *Am. J. M. Sc.*, 239:198, 1960.

Additional information available to physicians upon request.  
Eli Lilly and Company, Indianapolis, Indiana 46206.

Lilly  
70



# DIURESIS



## MERCUHYDRIN<sup>®</sup> (meralluride injection)



Twenty years ago the publication of "A System for the Routine Treatment of the Failing Heart"<sup>1</sup> established a schedule of diuretic therapy as a primary factor in the treatment of acute congestive failure. With emphasis upon daily injections of Mercuhydrin (meralluride injection) until dry weight was obtained, Gold, et al. achieved a 40% increase in improvement, in ½ the time, over other methods then current. Today, most medical texts continue to recommend parenteral mercurials in acute congestive failure when prompt diuresis is indicated.

Recently Modell<sup>2</sup> has stated: "The mercurial diuretics are the injectable diuretics of choice since they are the most potent as well as the most dependable. Their toxicity is not an important consideration either by comparison with other potent diuretics or in relation to the seriousness of the conditions in which they provide such excellent relief."

### IN BRIEF

Mercuhydrin is indicated in edema of cardiac or hepatic origin and in the nephrotic syndrome; it is contraindicated in acute nephritis and in anuric or oliguric states. *The usual adult dose is one to two cc. daily or every other day until "dry weight" is obtained.* Sensitivity is rare but small initial doses are advised to minimize potential reactions; vertigo, fever, and rash have occurred. Overdosage may produce electrolyte depletion, muscle cramps, and G.I. reactions. Supplied: 1 cc. and 2 cc. ampuls in boxes of 12, 25 and 100; 10 cc. rubber capped, multiple-dose vials (intramuscular or subcutaneous use only) in boxes of 6 and 100.

1. Gold, Harry, et al.: *A System for the Routine Treatment of the Failing Heart*, The American Journal of Medicine, Vol. III, No. 6:665-692 (Dec.) 1956.

2. Modell, Walter: *Drugs of Choice 1966-1967*, p. 97, 1966.

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### Guest Editorial . . . .

#### VSPB—The Past and the Future

VIRGINIA has 11,750 legally blind people with 800 becoming blind each year, according to statistical estimates of the National Society for the Prevention of Blindness, Inc. The Virginia Commission for the Visually Handicapped had on register 5,731 legally blind as of December 31, 1967. The discrepancy is probably due to poor reporting by physicians as well as lack of seeking help on the part of patients. The sad fact on the above data is that we believe *half of the above should never occur*.

For the past ten years the Virginia Society for the Prevention of Blindness, an affiliate of the National Society, has been working with the Virginia Commission for the Visually Handicapped, the State Health Department, the Lions Clubs, and numerous other organizations in setting up programs and projects to reduce this number.

The Medical Advisory Committee of VSPB initially advised the Society to concentrate its activities in two areas of need. These were the field of glaucoma detection and preschool visual testing.

The Society now conducts community mass glaucoma detection screening programs under local sponsorship (usually Lions Clubs) with the approval and cooperation of local health departments and medical societies. Two of every 100 persons over 40 have glaucoma. One half do not know it. Percentage rates are higher in families with members known to have glaucoma. The reduction of the visual fields is so gradual the patients are not aware of the presence of the disease until too late. There may be no pain or the pain may be severe depending on the type of glaucoma. The disease may be controlled and blindness averted if detected early. The above statements point out the importance of the glaucoma screening programs.

The Society conducted 36 screening programs in various localities in Virginia from the period 1960-1967. It screened 22,682 people with 1,167 referrals to physicians. Ten per cent of the referrals were found to have definite disease and another 12 per cent were suspicious cases that needed further evaluation. Most lamentable is that 16 per cent did not go to their physician for an evaluation of their findings.

There are 24,000 cases of glaucoma in Virginia, according to the estimate. Half of the victims are unaware that they have a potentially blinding disorder. From the figure quoted in the previous paragraph, we know that we have considerable work in the future if we salvage any sizable portion of this afflicted group.



The Society feels we may accomplish this to some extent by increasing the number of screening programs, encouraging the inclusion of testing for the disease in routine physical examinations for commercial and industrial workers, and in the routine annual physical examinations of all persons 35 years of age and older. In order to conduct a greater number of screening programs it will be necessary to train many ancillary personnel to assist in the screenings under medical supervision and to handle follow-up services for suspected cases. We feel that numerous local information and referral services should be established to handle inquiries about glaucoma and other eye problems from the general public.

The Society is working diligently on its preschool testing program. From 1960-1967 there have been 11,808 children screened with 217 referrals for professional evaluation.

The adult's role in insuring good vision for children is indisputable. The child does not know what preventive measures should be taken to guard his precious sight against disease. A tot doesn't know how well he should be seeing as he grows older. He may have blurred vision, or double vision, or use only one eye, and still not complain because he doesn't realize it should be different. Youngsters must rely on adults for good sight.

We believe that if we can get a complete enough coverage on preschool testing in the future we will eliminate much of the unilateral blindness from amblyopia, much of the heartache and shame of crossed and divergent eyes, and many of the associated diseases which lead to future blindness.

The Society trains and supervises volunteers provided by local sponsoring groups to screen the vision of three to six year old children. Children who do not meet the screening criteria are referred for professional eye examination and careful follow-up is made until a report of examination is received. All projects are under a professional advisory committee chaired by an ophthalmologist. The service is available throughout the state as sound programs can be worked into staff schedules.

The Society has long been active in the field of industrial safety programs and its Wise Owl Clubs, doubtless familiar to all of you.

The Society advocated the passage of the school eye safety law which became effective July 1, 1966. This law makes it mandatory that all teachers, students and visitors in chemistry laboratories and certain industrial arts classes wear eye protection. Information and guidance was given at all stages of bringing the law into being. The Society is offering its help in the implementation of the law.

The Virginia Society for the Prevention of Blindness is an organization of men and women from all walks of life who are giving their time, energy and talents to help their fellow man. These volunteers will appreciate any advice or help from non-members of the organization which may be of aid in the accomplishment of these goals.

MARION D. WADDELL, M.D.

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*611 Medical Arts Building  
Richmond, Virginia*

# A New Plan for the Study and Comprehensive Treatment of Alcoholics in Virginia

EBBE CURTIS HOFF, M.D.  
Richmond, Virginia

*Alcoholism, a major problem of our times, is receiving more attention from the state and federal government.*

IN 1948, the General Assembly of Virginia enacted legislation providing for the study of problems of alcoholism, the treatment of persons addicted to the excessive use of alcohol, and the establishment of a Division of Alcohol Studies and Rehabilitation in the Virginia State Department of Health. The Act also provided for the promotion of preventive and educational programs within the Division. According to the legislation, any person who, through the excessive use of alcoholic beverages, has become unable to care for himself, his family or his property, or has become a burden on the public, may voluntarily request admission to the hospital and clinical facilities established under the Act. Persons admitted for care and treatment in the hospital and clinic facilities were to be selected in accordance with policies to be established and should be deemed the type of person to whom such care would be of value to the patient individually and/or for the research objectives of the Division. Patients admitted for treatment to the

hospitals or clinics were to pay for the expense of their care and treatment, in so far as they are able, provided, however, that no person should be charged at a rate greater than the actual cost of care and treatment.

Since 1948, 8,505 patients have been accepted (all on a voluntary basis). The treatment facilities are operated on a coordinated basis and include a specialized 12-bed unit at the Medical College of Virginia in Richmond as well as arrangements for admission to the departments of psychiatry or medicine at the University of Virginia Hospital in Charlottesville. There are presently 10 outpatient clinics located in centers of population throughout the State. These are (in order of date of foundation) clinics at Richmond (MCV), Roanoke, Norfolk, Charlottesville (University of Virginia Hospital), Abingdon, Falls Church, Danville, Harrisonburg (an extension from Charlottesville), Lynchburg (an extension from Roanoke) and Winchester. Patients are referred from several sources as follows: Self-referred, 7.2%; relatives, 9.1%; friends, 9.4%; courts, 4.7%; social agencies, 3.9%; physicians, 34.6%; spouses, 6.7%; clergy, 3.6%; Alcoholics Anonymous, 8.2%; old Division patients, 4.7%; and others, 7.9%.

A public information program encourages alcoholic patients to apply for treatment as early as possible in the course of their condition. The outpatient clinics constitute the first line of the intake process and in these clinics an alcoholic or a person who believes he may have a problem with alcohol can freely discuss his difficulties with a member or members of the staff in the clinic who may recommend therapy as an outpatient or referral for hospitalization in the

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EBBE CURTIS HOFF, *Medical Director, Bureau of Alcohol Studies and Rehabilitation, Virginia State Department of Health, Richmond; and Chairman, Division of Psychiatric Research, Medical College of Virginia.*

Presented at the Annual Meeting of The Medical Society of Virginia, Williamsburg, November 6-9, 1966.

Division's hospital facilities at the Medical College of Virginia or the University of Virginia Hospital. Such hospitalization usually lasts about seven days but may be longer. This is followed by long-term treatment in the outpatient clinic nearest to the patient's home, usually the clinic at which he made his first contact. The Division's program is designed to foster maximal cooperation and collaboration with private practitioners. As stated, at least a third of the referrals to the Divisional clinics are made by private physicians who are kept informed of diagnostic studies, treatment recommendations and prognostic evaluations. Our aim is to aid private physicians in the management and care of alcoholic patients as a part of their own practice. The Division's philosophy of rehabilitation is based upon the concept that there is a constellation of etiological factors which are operating in different proportions in each patient and includes metabolic, psychologic, socio-cultural, and spiritual parameters. Thus, the effort is made to establish a sound diagnosis for each patient and to provide for him a treatment team that is multidisciplinary.

Treatment is comprehensive and includes the patient as well as his family. It is recognized that attention should be given not only to acute drinking problems but also to job and family problems as well as the emotional and other problems of living and functioning. Careful attention is given to the readjustment of the patient and his family as the patient continues to maintain abstinence.

The processes of recruitment, intake, and initiation of therapy are considered highly important and extremely relevant to subsequent outcome. At present, no patients are legally committed to the Division. However, there are degrees of "voluntariness" and the quality of motivation for recovery varies. Techniques for assisting the patient in developing motivation are regularly used. About 90% of those who apply are accepted

for treatment by the Division. The rest are referred to other agencies. There may be a single or several referral interviews during which the clinic doctor hears the patient's story; usually a social worker also derives a social history of the main presenting problems, including those of the family. Ordinarily, the patient is admitted to one of the Division's hospital services within a day or two, but physicians in some of the outpatient clinics prefer to follow their patients in the clinic on an outpatient basis for several weeks or longer before admitting them to the hospital. Some patients do well in the clinic without hospitalization.

The purpose of hospitalization is to make a detailed medical and psychologic diagnostic evaluation and to form a pertinent social appraisal of the patient and his family within a controlled hospital environment that is supportive and non-judgmental and is oriented towards developing an individualized plan of long-term followup therapy in the outpatient clinic.

About half of the patients are admitted from the outpatient clinics in an alcohol-free state, while the remainder are in a phase of post-alcoholic withdrawal or acute intoxication. Tranquilizers, sedative medication and other drug treatments are used adjunctively on a conservative basis, as indicated, and while in hospital the patients take part in group therapy, individual therapeutic interviews with members of the staff and also participate in a series of therapeutic films and closed circuit television programs, the main purpose of which is to provide information and guidance about their condition and how it may be handled with their cooperation. The Division works actively with Alcoholics Anonymous and other voluntary and local and State social and welfare agencies and health services. Antibusse (disulfiram) and other pharmacological aids in the comprehensive treatment program are offered. It has been found that Antibusse significantly increases the recovery rate,



partly because it selects more highly motivated patients who show less deterioration.

The Division engages in and sponsors an organized program of investigation and research into the causes, treatment and prevention of problem drinking. This research includes studies of the physiologic, pharmacologic and biochemical aspects of alcohol as well as clinical investigation of emotional and metabolic problems of alcoholic patients and studies of the relations between patient diagnostic and other characteristics, modalities of therapy, and treatment outcome. With respect to this latter research, a project is now under way to seek significant correlations between demographic, diagnostic and other characteristics of alcoholic patients, treatment modalities used in inpatient and outpatient phases of therapy and outcomes of therapy in terms of patient rehabilitation. To accomplish this, we are first conducting an analysis of the inpatient and outpatient records of all or samples of records of 8,000 patients who have been under treatment in the Division from 1948 to the present. The initial phase of the study will constitute a precise evaluation of these records leading to the development of a code manual by means of which potentially significant items for each patient can be transferred to a form which will permit punching and storage of the information for computer manipulation. As suggestive associations emerge from the statistical analysis, it is intended to evolve new and more precise data retrieval techniques for the study of new patients to be admitted. As this second phase proceeds, we will formulate and test new hypothesis based upon conclusions reached in the initial retrospective study. We then propose, as a third phase, to develop an instrument which we can use in a direct followup of the patients with whom we have already worked as well as patients to be treated in the future. The over-all aim of these investigations is to improve our own therapeutic success and, hopefully, the treatment efficiency of others. In particular, we

seek to establish more confident guidelines in applying specific therapies or combinations of therapies to patients with particular characteristics.

At its last session, in the spring of 1966, the General Assembly appropriated the sum of one million dollars to establish at the Medical College of Virginia a center for research into the causes and treatment of alcoholism. This center will be under the direct supervision of the Division of Alcohol Studies and Rehabilitation. The basic functions of the new center will be the study and investigation, on a comprehensive basis, of the causes, treatment and prevention of alcoholism, and the education and training of doctors, nurses, students, social workers and research workers into the cause and treatment of this condition. It is provided that the center will include, but not necessarily be limited to, the following facilities: (a) facilities for research into causes, diagnosis and existing and new methods of treatment for alcoholism; (b) facilities for acute emergency cases and the study of these; (c) an intensive care unit; (d) an inpatient living unit to test group therapy and other treatment methods; (e) day care facilities to permit the evaluation of treatment without hospitalization and transitional treatment stages and facilities for outpatient care. The new center will include necessary conference areas for teaching and instruction. The bill specifically approves the acquisition of staff adequate to perform the clinical, investigative and educational functions of the center.

This enabling legislation represents a significant step forward in the growing attention being given in the United States and Canada to the serious social and health problems of alcohol addiction and dependency. Especially, there will now be the opportunity for the development of a medical school-based center which will engage in clinical and experimental investigation and serve as a model and guide for treatment. It is hoped that a knowledge of procedures

and principles derived from the new program will help private practitioners, general hospital staffs, clergy and others. In carrying out this purpose, the center will conduct training conferences and seminars, as well as provide opportunities for doctors, nurses and others to engage in temporary or prolonged periods of special study and postgraduate education. The center will stand ready to participate in the education of medical, nursing, and social work students as well as interns, residents and chaplaincy training students. The center will cooperate broadly with physicians and other professional individuals as well as educational, welfare, and social agencies. Since the total number of patients in the center at any one time will be limited to a maximum of 50, it is recognized that the program is not designed to handle directly, by any means, any but a fraction of the alcohol problems in the state.

An important feature of the center will be an ongoing program for study of methods and procedures for data collection, storing, and processing, as well as information retrieval, using modern computer tech-

niques. The entire staff, as stated, will be concerned with investigating criteria for recovery and correlation of diagnostic and prognostic factors with actual therapeutic outcome. The program will provide a setting in which special personnel can work on approaches toward prevention of alcoholism. Such studies will include social and cultural attitudes towards drunkenness and excessive drinking. Investigation of such issues as accident prevention and highway safety can also be carried out.

It is anticipated that the next few years will see increased governmental concern for alcoholism problems. No one particular governmental level—federal, state or local—can possibly be expected to assume all the responsibility. It is encouraging that the health services are showing an increasing interest as are also those devoted to education and the law. The establishment of the new National Center on Alcoholism in the National Institute of Mental Health is predictive of the trend towards a more effective attack on this major problem of our times.

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1200 East Broad Street  
Richmond, Virginia

### **Clinical Center Study of Chronic Myelogenous Leukemia**

The cooperation of physicians is requested in a continuing study of chronic myelogenous leukemia being conducted by the Medicine Branch of the National Cancer Institute at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Referrals of patients with chronic myelogenous leukemia are needed. Patients of all ages with high white blood cell counts and platelet counts are needed for studies

of newer chemotherapeutic agents and as a source of white cells and platelets for *in vitro* and *in vivo* study.

Physicians who wish to have their patients considered for the study may write or telephone: Paul P. Carbone, M.D., Clinical Center, Room 12-N-226, National Institutes of Health, Bethesda, Maryland 20014, Telephone: 656-4000, Ext. 64251 (Area code 301)

# "Doctor! My Hair Is Falling Out"

(A Comment on the Alopecias in Modern Suburbia)

CHARLES M. AARONSON, M.D.  
Fairfax, Virginia

*Loss of hair is not due to infectious disease in most cases. All cases, however, deserve the physician's attention.*

*The very hairs of your head are all numbered.* New Testament—Matthew X, 30.

THE HUMAN HAIR growth cycle exists in three phases: anagen or active growth; catagen or transitional; and telogen or inactive, resting.<sup>1</sup> (Fig. 1) The anagen hair constitutes a mosaic over the scalp, and is approximately 90% of the hair in normal adults.<sup>2</sup> The other 10% are telogen, and can be casually extracted, because they are held only by mechanical friction. In humans the scalp is the last repository of real pelage, and evolution may be undermining it, too. As the extent of our hair shrinks, instinctive dread of losing it burgeons. Today's suburban dermatologist sees few infectious alopecias. By contrast, non-infectious alopecias predominate (Table 1).

TABLE I

ALOPECIA IN SUBURBIA. 230 CONSECUTIVE CASES

Alopecia Areata	
Male	23
Female	40
Total	63 (27.4%)
Traumatic Alopecia (Total)	52 (22.6%)

Presented at the Annual Meeting of The Medical Society of Virginia, Williamsburg, November 6-9, 1966.

AARONSON, CHARLES M., M.D., *Chief, Dermatology Section, Cafritz Memorial Hospital, Washington, D. C.*

Inadvertent	
Male	2
Female	33
Total	35 (15%)
Trichotillomania	
Male	6
Female	11
Total	17 (7.4%)
Male Pattern Alopecia	26 (11.3%)
Female Diffuse Alopecia	14 (6.1%)
Tinea Capitis	
Male	10
Female	1
Total	11 (4.8%)
Alopeciaphobia	20 (8.7%)
Seborrheic Dermatitis	16 (7%)
Postpartum-type	18 (7.8%)
Folliculitis (coccal)	3
Miscellaneous	7

Commonly diagnosed noninfectious alopecias are grouped in Table 2, and constitute the subject of this paper.

TABLE 2

NONINFECTIOUS ALOPECIAS TO BE DISCUSSED

1. Alopeciaphobias
2. Male pattern and female diffuse alopecia
3. Traumatic (traction) alopecias
  - A. Inadvertent
    - I. Sustained undue traction on structurally normal hair (brush rollers, etc.)
    - II. Over-processing (structurally damaged hair readily extracted by routine traction)
  - B. Trichotillomania
4. Seborrheic dermatitis
5. Postpartum-type alopecia

## Alopeciaphobia

Patients whose chief complaint is "Doctor! My hair is falling out", are being seen quite often today, but they cannot be classed among the alopecias because there is, on careful examination, no evidence of abnormal hair loss. They can be designated best as "alopeciaphobics", and it occurs in neu-



rotic females who subconsciously transfer anxiety about their life situation to the more acceptable physical problem of hair loss. Typically a young married woman, the phobic patient, brings along an envelope of telogen hair to support her belief she is getting bald. Most of them will profess great fear of baldness, but they also admit that their hair has been falling out at about the same rate for some time, and baldness has not occurred. Their fear of baldness is illogical, and becomes intensified the longer the search for causes of the nonexistent disease goes on. Psychiatric treatment is unwelcome, and may not be indicated, due to immaturity of the personality. At best, superficial psychotherapy and phenothiazines are an inadequate approach. Many of these patients spend enormous sums of cash for treatment and nostrums purveyed by clever lay "scalp specialists", whose advertisements are intended to capitalize on, if not actually incite alopeciaphobia.

### Male Pattern Alopecia

Typical male alopecia is easily recognized, but treatment is ineffective. The victim must realize his hair loss is part of an evolutionary trend, not a vitamin deficiency. Such men should be informed that tightness of the scalp, lack of blood supply, improper headgear etc., are all obsolete theories on male baldness, and that hair transplanted from the back of the neck grows beautifully even in the center of the baldest pate. This fact discredits the claims that massage or tonics are needed to stimulate circulation: the blood is there!

The term "female pattern alopecia" is suggested to emphasize the fact that many healthy women experience progressive thinning of scalp hair in the fifties or earlier.<sup>3</sup> This alopecia is distinct from male baldness, because it is diffuse, with greatest loss focused on the vertex. Male baldness, a dominant trait, is supposed to be sex-limited, but female carriers may display it, especially after menopause.<sup>4</sup> Probably a majority of

patients originally diagnosed in the nineteen fifties as diffuse alopecia in women<sup>5</sup> are better classed as "female pattern baldness" to emphasize the genetic factor. Endocrinopathy may certainly cause this type of alopecia, but is much less common than genetic etiology. In the absence of correlative symptoms and signs, it is unnecessary to do extensive endocrine work ups in most victims of female diffuse alopecia.

### Alopecia Areata

This is the commonest form of alopecia complained of by both sexes, in my experience, and it is recognized by beauticians and barbers. The sudden appearance of multiple smooth round patches of non-inflamed bald scalp, beard, or other region, is pathognomonic. (Fig. 2) Although hair may be found within the bald area, it is a type known as "exclamation point" hair, and the finding of this kind of telogen hair (see Fig. 1) confirms the diagnosis of alopecia areata.

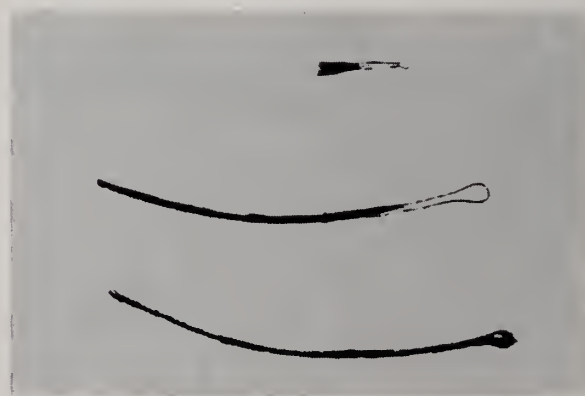


Fig. 1. Top: exclamation point hair. Middle: telogen hair. Bottom: anagen hair.

The exclamation point hair is a stub whose free end is flatter and wider than the attached part. Upon extraction, the point of the hair (its root) is slightly bulbous, with depigmentation that extends upward onto the lower shaft. Information about the future course of the disease is obtained by tentatively pulling on hair adjoining the bald areas. If it is readily extracted, enlargement of the area is likely. If hair all over the scalp is loose, alopecia totalis is

probable. (Fig. 3) Beyond this, prognostication is impossible. Spontaneous regrowth is common in an affected area, but recurrences are common also. The prognosis deteriorates the larger the area and the greater the num-



Fig. 2. Alopecia Areata: Note smooth surface, rounded contour.

ber of areas. Children's prognosis is worse than that of adults.<sup>6</sup>

When hair regrows, initially it may be gray or white, instead of the original color, a phenomenon that results in a cosmetic



Fig. 3. Alopecia Totalis: Early regrowth on triamcinolone.

problem that can be remedied by hair dye. The cause of alopecia areata is unknown, although the pathology shows a profound disruption of normal hair root function, with intense inflammatory infiltration by lymphocytes.<sup>7</sup> The hair roots enter a resting

state. Corticosteroids infiltrated in the area, or systemically, reverse the process<sup>8</sup> without curing it. The etiologic theory which has stood the test of time is that of psychogenic causation. Fatigue, tension, or emotional trauma are the findings in nearly all cases. A recent auto wreck, a surgical operation, a severe headache or a tremendous emotional shock frequently precede the onset. Students get alopecia areata after final exams; housewives may get it after a daughter's elopement, and executives may get it on a new job under a demanding or unsympathetic boss. Treatment should pay heed to remedying the environmental tension, as well as to injecting the patch of alopecia with hydrocortisone suspension. Oral corticosteroids, such as triamcinolone, are the last resort in extensive cases, provided there is no history of tuberculosis, diabetes, or peptic ulcer, but close supervision is essential. I encourage patients to get a wig, so they will worry less about the bald spots.

### Traumatic Traction Alopecia

Traction alopecias are common in suburbia. This alopecia first became widely noted during the pony tail craze of nearly ten years ago.<sup>9</sup> It has been long known that Eskimo girls who wear their hair tightly pulled back to fit inside their parkas develop marginal alopecia on the forehead and temples. The same is common among tiny American Negro girls or Sudanese adult women, who wear tight braids.<sup>10</sup> Both conditions are due to prolonged traction, which precipitates telogen, and reversible (at first) hair loss. When pony tails gave way to the Jacqueline Kennedy style, real trouble started. Bouffant style requires "back combing", a process of gathering hair in one hand, and combing strands backwards toward the scalp. The result is a rigid projecting mass of hair. The prolonged pulling incident to back combing, and the excessive tension on hair during use of tightly rolled Croquignole curlers (Fig. 4) at the beautician's shoppe, or brush rollers at home, are producing a



growing numbers of patients who complain of thinning of the scalp hair.<sup>11</sup> A majority of these women never consult a physician, because they suspect that tight rollers and back combing may cause hair loss, although



Fig. 4. Inadvertent Alopecia due to prolonged use of tightly wound brush rollers.

beauticians deny it. Regrowth is slow. Women with fine hair are more susceptible, because they require more intense teasing and rolling to produce an illusion of fullness. Their hair grows more slowly, too, so regrowth is slower.<sup>12</sup>

### Overprocessing

A somewhat different type of traction hair loss is produced by the error known as "overprocessing".<sup>13</sup> Occasionally a beautician is too busy to pay close attention to her client, who has had application of stripping compounds or wave solutions; both are corrosive to the keratin molecule and to the scalp. Although the victim experiences pain in the scalp, she doesn't complain, because pain is common, and she assumes everything is normal. The next day she discovers that a large mass of hair simply falls right out when she combs her hair. (Fig. 5) The loss is from the vertex; the hair is fractured close to the scalp due to loss of tensile

strength from overoxidation of the peptide chains of which the keratin consists. Although less dramatic, a slower loss of hair occurs in women who have excessively frequent bleaching or coloring. Examination

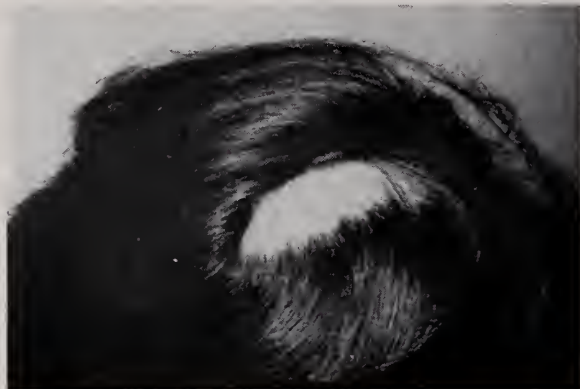


Fig. 5. Inadvertent Alopecia due to combing overprocessed hair: Patient bleached hair four times in one week.

of the scalp shows diffuse thinning of hair, and varying degree of inflammation and desquamation. Treatment consists of obtaining the cooperation of the patient in discontinuing regular trips to the beauty shop, and refraining from permanents and hair coloring until the scalp recovers. A course on systemic corticosteroid is indicated for treatment of the inflamed scalp, because severe inflammation may intensify the alopecia, which is ordinarily reversible.

### Trichotillomania

Trichotillomania is a special type of traction alopecia in which the patient actively extracts the hair from the scalp due to a compulsive habit.<sup>14</sup> Most patients are young—children at puberty are the majority—although adult females are frequently afflicted. Plucking out one's hair starts casually at first, with hair twirling or sucking, but becomes established as a ritual constant enough to cause localized or extensive baldness. The prognosis is good if the patient is aware of the habit and admits it. Usually boredom and tension are trigger factors. The bald areas often show deep finger-nail excoriations (Fig. 6) with broken off hair



stubs of varying length. All hair stubs are anagen, and easily distinguished from the exclamation point stubs of alopecia areata.

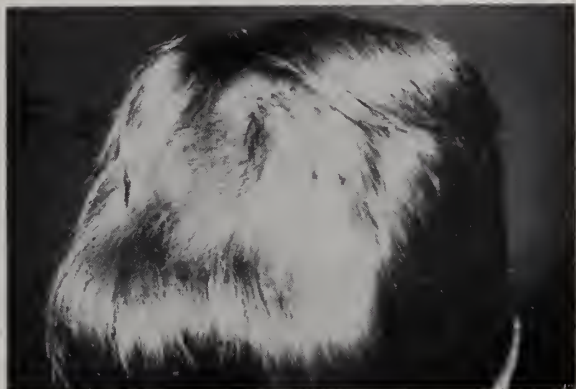


Fig. 6. Trichotillomania: Agitated school teacher. Note excoriations, irregular contours.

The history is important, because treatment must be oriented at providing an alternate discharge of emotional tension for these tense, compulsive hyperkinetic individuals.

Psychiatrists emphasize the role of sex problems in trichotillomania,<sup>15</sup> but most of my cases had a clear cut relationship to situational stress. An occasional patient may be bordering on true psychosis, and may deny extracting the scalp hair despite proof. (Fig. 7) They conceal the habit by swallowing



Fig. 7. Trichotillomania: psychotic adolescent girl.

the hair, or flushing it down the commode. Psychiatric referral is imperative in such

cases. Most children afflicted are sublimating tension of school competition or sibling rivalry, or reacting to physical shock. Adults are compulsive hard workers unable to express hostility or aggression. Treatment with tranquilizers may potentiate superficial psychotherapy or psychiatric evaluation.

### Seborrheic Dermatitis

Seborrheic dermatitis, a hard-to-define entity related somehow to that bugaboo dandruff, is a relatively uncommon cause of alopecia. When itching, scratching, and self-treatment continue for a protracted period, some hair loss from the scalp finally occurs, and is associated with erythema, scaling, and often oozing of serum or pus from the excoriated irritated scalp. This loss is diffuse and reversible. Its treatment is that of the scalp dermatitis, which requires soothing compresses, antibiotics, cortisone-like drugs, and absolute prohibition of "dandruff" shampoos. It cannot be stressed enough that there is no evidence to support the widespread belief that dandruff is contagious or infectious. Most cases of scalp dermatitis seen in practice seem to be elicited from overstimulation of the scalp by massage, and vigorous use of chemically irritating shampoos. The antiseptics present in "dandruff" shampoos may cause allergic contact dermatitis, but most often the problem is due to a primary irritancy reaction. Simple inexpensive non-therapeutic commercial shampoos can be permitted after the subsidence of erythema and oozing. Commercial cream rinses are helpful after shampooing to inhibit dryness and simplify grooming. A few drops of mineral oil delivered to the scalp with a glass dropper will provide control over localized desquamation between shampoos, which should be as infrequent as possible. Monthly shampooing should be adequate and safe. Lay scalp "specialists" place great emphasis on dandruff as a cause of falling hair. Their advertising and the tonics and shampoos they sell are potentially harmful, because the

advertising generates alopeciaphobia, and the local agents are, at best, ineffective in stimulating hair growth.

### Postpartum-type Alopecia

Postpartum alopecia is seen now more frequently, probably because the newly-affluent suburbanite woman can afford to be told by her dermatologist what she used to be told by her midwife or mother: that delivery may provoke alopecia. Postpartum alopecia is reversible, and its real extent is less than it seems, when judged on the quantity of hair which falls. The reason is that during pregnancy the rate of telogen conversion is probably reduced, and hair is actually thicker at delivery. This excess hair is lost postpartum, plus the usual hair loss for the time. Perhaps the shock of delivery itself leads to additional effluvium in susceptible individuals. Some women now using oral contraceptives have noticed alopecia a few months after discontinuing the drug, for the same mechanism is present while on the hormones. The best treatment for these fearful housewives is to examine the scalp and discover the large number of very short new hairs that can usually be found emerging just at the peak of the postpartum loss, three or four months after delivery. Reassurance is the best medicine; thyroid, vitamins, gelatin, or scalp treatments are obviously worthless and contraindicated because their use implies that a non-existent disease is present.

### Summary

A much greater percentage of minor scalp disorders is seen by today's suburban dermatologist. Phobic individuals should be recognized, and protected from exploitation by commercial "scalp specialists". Male and female pattern alopecias are incurable, and their victims are best served by explaining scalp physiology, rather than useless tests and treatment. Hair transplantation<sup>16</sup> has value more as an experimental proof of the inaccuracy of old theories on the etiology of

male alopecia, than as a practical treatment for the victim of thinning hair. Alopecia areata can be improved by treatment, but it is time-consuming and is probably best referred to the dermatologist if extensive. Traumatic alopecias, both psychogenic or inadvertent, require differentiation from the other alopecias, and careful history-taking is mandatory if correct treatment is to be applied. Mistakenly vigorous treatment with "dandruff" shampoos can cause a vicious cycle of progressive scalp dermatitis, with ultimate thinning of hair. Postpartum alopecias, and the similar alopecia seen after discontinuing oral conception control, have a good prognosis without the necessity of treatment. Griseofulvin should not be administered until the diagnosis of tinea capitis (Fig. 8) has been proved with Wood's lamp



Fig. 8. Tinea Capitis, proven by microscopic examination of hair. Note central scale, peripheral inflammatory border.

and microscopic examination, in view of the relative rarity today of mycotic alopecia in suburbia.

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### Causes of Children's Deafness

The causes of children's deafness are changing fairly rapidly. "Acquired" deafness due to infection, injury, etc., is declining, partly because of effective antibiotics and other medical treatment. On the increase, however, is congenital deafness caused by premature births, German measles infection of pregnant mothers, and incompatibility of the Rh factor in the mother's and child's blood. Of these, premature birth is of increasing importance, primarily because more premature babies are surviving.

When two investigators surveyed admission records of the Pennsylvania School for the Deaf in 1960-61 and again in 1964-65, they found noteworthy changes in the distribution of kinds of deafness.

There was a doubling of cases of "congenital, nonhereditary" deafness—mostly due to prematurity—in the four years between surveys.

Deafness due to infections and illness was almost cut in half during this same period. The authors attribute much of this decline to increasing use of antibiotics to combat these infections.

Almost unchanged, however, was the percentage of cases due to viral infections unaffected by antibiotics.

The effects of Rh incompatibility reached a peak in children born between 1949 and 1951, and declined thereafter. This may coincide with better recognition, treatment, and survival of these children.

The report appears in the August issue of the *Archives of Otolaryngology* published by the AMA.

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# Modern Birth Control

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*Various solutions to the urgent problem of birth control are discussed, intrauterine devices being sometimes more effective than "the pill".*

THE MOST PRESSING PROBLEM confronting humanity today is the initiation of some system by which its numbers can be controlled. We possess the tools and the knowledge by which to accomplish this, but as yet we have only begun to learn how to apply them to the need. The first attempt by a political subdivision to initiate family planning on a wholesale basis was made by the State of North Carolina in the depths of the great depression. The effort was doomed before it started, simply because the contraceptive methods used failed in their patient acceptance and appeal. All the medical profession had to offer at this time were diaphragms and jellies. While these might be effective in intelligent hands, they were complete failures where they were most urgently needed. With the advent of the pills and the plastic IUD's, an answer was found. In 1959 the use of Enovid was initiated as a contraceptive device in Virginia Beach. This was supplemented in 1963 by the intrauterine devices and in the past year has been spread to what was formerly Norfolk County. It is upon the experience acquired in these localities that this study was undertaken. No one method of contraception can apply to every

patient, and each situation must be individualized. Because in a public health program they are worthless, rhythm and rubbers can largely be confined to the museum. Foams and jellies afford good protection, but when employed for a long time, frequently fail. Because they require a high degree of motivation and patient participation, there are only three indications for their use: No. 1—In conjunction with a diaphragm. No. 2—For the remainder of a menstrual month in the patient who is going to use pills for the first time and who sees the doctor after day number five. No. 3—In the first eight weeks that a patient is wearing an intrauterine device.

Diaphragms were an excellent method of birth control for many years. However, they have never been popular with the uneducated and indigent. They are indicated for that rare patient who can use neither pills nor IUD's without undesirable side effects. The most reliable method of contraception now available is any one of the several pills. All are equally effective although it is possible that the sequentials do not afford quite the same degree of protection as the combination variety, namely Enovid, Orthonovum, Provest, etc. Because of our ignorance of human chemistry, a great deal of misinformation has been disseminated about the oral contraceptives. We can now state with certainty that they do not cause clots in certain blood vessels, nor do they affect a person's visual acuity. Neither do they increase nor decrease fertility, and they are without effect on the change of life. Furthermore, we need not fear that our descendants will be ringtailed monkeys. Lastly, they can be taken forever and ever.

The most common serious drawbacks to the pills are nausea, breakthrough bleeding

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and weight gain. Also commonly observed are migraine headaches, chloasma, depression and rarely psychotic changes, facial hirsutism, and loss of scalp hair. The incidence of side effects is about the same with all the pills. However, some patients will tolerate one when they cannot take another. The sequentials have a higher incidence of nausea and migraine, but only rarely cause weight gain. Pills are supposed to be contraindicated in cancer, liver disease, heart failure, adrenal insufficiency, epilepsy and in patients who have had vascular accidents, peripheral vascular disease or thromboembolic phenomena. These complications are rare in the child-bearing years, and the prohibition of the pills under the circumstances is more relative than absolute. They can be given without hesitancy to lactating mothers or patients with varicose veins.

In connection with birth control a combination type of pill can be used to initiate menstruation after delivery. Any bleeding a woman does in the first six weeks postpartum is not a menstrual flow, and most will not have a period for from eight to twelve weeks. In clinic patients we attempt to start them on pills when the baby is fifteen days old, namely one a day for twenty days. They must be warned that they will have a great deal of breakthrough bleeding during the first month. However, it apparently protects them from pregnancy and produces a menstrual-like flow at the time of their six weeks' examination. At this point it can be decided whether to continue this form of protection or to switch to another. In private patients who do not resume sex life, as a rule, until after six weeks, it is our practice to give Enovid ten milligrams daily for ten days, starting with the thirtieth day after delivery. This depresses all bleeding existing beforehand and is always followed in two or three days by a period. The patient can be gotten to the office before a flow starts, and instructed in further contraceptive details. When the patient understands what is being done, the nausea produced by this high dosage is most

of the time tolerated, and it does not seem to interfere with lactation. If the patient elects to continue with the pills for further birth control (using one daily for twenty days beginning on day number five), you can assure her that she is safe from the first pill on and does not have to take them for a week before she is protected.

The use of a foreign object in the uterine cavity to prevent conception is not new. The term *pessary* is derived from a Greek word meaning pebble. These may have been used for contraception 3,000 years ago. We do know that the tribes of North Africa, who were greatly influenced by Greek civilization, for years used a hollow reed to blow a pebble into the womb of a non-pregnant camel to keep her from conceiving. The first method in modern times was used by a German named Pust, who in 1905 developed an intracervical device consisting of a spring that held a button-like object against the cervix. In the 1920's Dr. Graefenberg introduced his ring. His birth control results were excellent, but a certain number of these instruments ended up in the peritoneal cavity with disaster to the host. He was so thoroughly damned that his idea fell into disuse for over twenty-five years. He was not only before his time, but his instrument was crude, and people in general had not awakened to the fact that there were too many of us. Also, the medical profession had to be educated to the fact that a foreign object could be placed in the womb without injury to the person. Fortunately, the dream of birth control was kept burning in a few dark corners but the reports issuing therefrom were largely neglected because they were considered as backwaters of medicine. In 1959 a large series of cases was reported by Oppenheimer from Israel using silkworm gut as an IUD. As a result, this method of birth control acquired respectability and led to the development of the plastic devices now in use. The effectiveness of the IUD in private practice lies somewhere between the pills and the diaphragm; however, in public health work where you are dealing with



ignorant and indigent patients, it is without peer. Once the device is in, it requires no patient cooperation in the execution of contraception. Several types are now being used, and all seem to be equally good. The ones used locally have been the Birnberg bow, the Lippes loop and the Margulies Spiral (Fig. 1). The method by which these

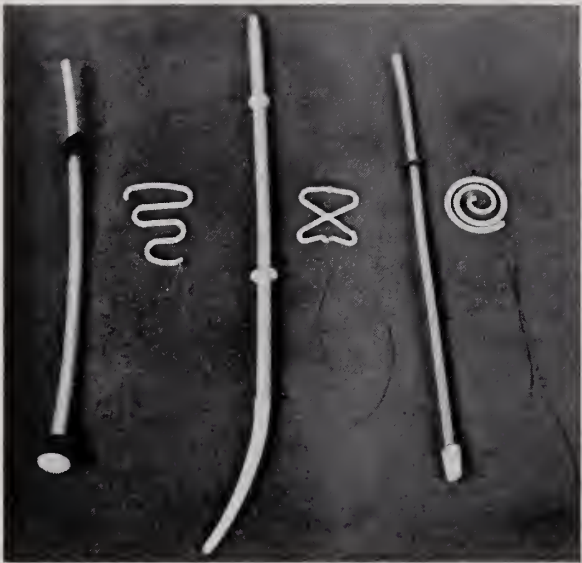


Fig. 1. Types of IUD's and instruments for inserting them. Left to right: Lippes Loop, Birnberg Bow and Margulies Spiral (tail replaced by a thread).

devices prevent pregnancy is entirely unknown. In experimental animals who form fifteen or twenty eggs as a result of sexual stimulation, most of the ova will not be fertilized when a foreign object is in the uterus. The occasional one, that is fertilized, develops to the eight or sixteen cell stage and then disintegrates. In human uteri contain-

ing an IUD the endometrium apparently lags in development so that it is an unsatisfactory nidus for the fertilized ovum.

To date, over six hundred devices of various types have been inserted locally. No statistical analysis will be attempted as this has already been done far more efficiently by other investigators. The main purpose of this paper is to introduce the devices to the local profession, with emphasis on some of their complications and hazards, in hopes that it will encourage their use in other sections. A larger number of bows have been used than the other two devices. This type

TABLE No. 1  
TYPES USED

Birnberg Bows	(small)	79
	(large)	287
Margulies Spirals	(small)	2
	(large)	42
Lippes Loops	(small)	8
	(large)	182

was chosen originally because it was thought that it would not fall out of the uterus as quickly as the other two. However, it is harder to install, and the number of perforations occurring from it can be quite high. When this complication was discovered the Margulies Spiral was tried. However, it has the disadvantage that the hard stem that projects from the cervix sometimes gets in the way during coitus. What is more frustrating is its withdrawal into the cervical canal so that it cannot be found except by x-ray or probing the uterine cavity (Fig. 2).



Fig. 2. Probe in uterine cavity to show position of IUD. AP and lateral views.



Occasionally it will embed itself into the substance of the cervix and have to be excised. This apparently does no harm. We are now using the Lippes Loop almost exclusively, not only because of its ease in installation, but also because it is freer from complications than either of the other two. Its removal is simplicity itself—all you have to do is to pull on the string.

Seventy-six of these devices were removed for various reasons as shown:

TABLE No. 2  
REASONS FOR REMOVAL

Bleeding .....	41
Cramps .....	7
Nervous Patient or Husband .....	15
Religion .....	1
Medical Antagonism .....	3
To Use Oral Contraception .....	1
Infection .....	8
TOTAL .....	76

Many of these removals were totally unnecessary and represented timidity on the part of the patient and the medical profession to accept a new device. The majority of persons who suffer from cramps or bleeding can have a smaller IUD inserted with a complete disappearance of obnoxious symptoms and almost no loss in the degree of protection. In addition to these seventy-six, twelve more were removed (the patient having had a sterilization or a hysterectomy). In those cases undergoing the latter procedure the device was left in situ until after the organ was taken out. This was done to determine what effect the IUD would have on the endometrium. In each case the pathologist reported little or no reaction around it.

Nineteen of the devices inserted failed to remain in the uterus. Fifty per-cent of all

TABLE No. 3  
IUD'S REJECTED

Bows (small) .....	3
(large) .....	7
Spirals .....	3
Loops .....	6

	Large		Small		Total
	Bow	Bow	Spiral	Loop	
Worn less than 2 months ..	2	1	2	5	10
Worn 2-4 months .....	1	1	1	1	4
Worn more than 4 months ..	4	1	0	0	5

the rejections took place in the first sixty days, and two-thirds in the first four months. The longer the device is worn the less chance there is that it will fall out. Why some patients fail to keep these devices in place is totally unknown. To prevent pregnancy, if this should occur, our patients are instructed to use Delfen or Emko Foam for the first two months.

A total of twenty patients became pregnant.

TABLE No. 4  
PREGNANCIES

Private Patients .....	15
Clinic Patients .....	5
Retained .....	10
Rejected .....	3
Undelivered .....	3
Lost .....	4

	Retained	Rejected	Undelivered	Lost
Small Bows ..	9	1	2	2
Large Bows ..	1	2	0	2
Large Loop ..	0	0	1	0

Predominance of private patients over clinic patients is probably due to the fact that the vast majority of private patients who became pregnant did so early in the series when the smaller type of Birnberg Bows was used predominantly. Most of those who became pregnant did so after a passage of twelve to fifteen months. It was noted that three of these represent failures because the device fell out, and its absence was not detected by the patient (all clinic patients). Most of the failures occurred with the smaller devices. Apparently the larger the device, the more effective it is.

There were a total of eleven infections.

TABLE No. 5  
INFECTIONS

White .....	3
Colored .....	8
Pessary Removed .....	8
Pessary Not Removed .....	3

Three of these were in white women who were wives of service personnel and eight were in colored clinic patients. All exhibited the usual signs and symptoms of acute pelvic inflammatory disease. The pessary was removed in eight of these without effect on the course of the disease. In three it was left in situ, and all patients responded rapidly. In three of those in which it was removed it was reinserted after the patient was cured without any flare-up of trouble. Nine of these patients responded rapidly to the usual treatment with antibiotics and supportive therapy, and two were resistant. One of these had a cul-de-sac abscess which evacuated spontaneously following which the patient recovered by lysis. The other patient had to undergo the removal of a left tubo-ovarian abscess. With one exception all of these infections occurred within one to twelve months after the initial insertion. This happened within forty-eight hours and presumably could have been due to the manipulation associated with the installation of the IUD—which was unusually easy. The woman was known to be morally irresponsible and promiscuous. It is highly likely that she was infected before the time of the installation. No bacteriological studies were done on any of these cases as they usually are not revealing in this type of disease. It is thought they were all due to gonorrhea.

There were a total of ten perforations in this series, nine of them as the result of the use of the large bow, one as the result of the small.

TABLE NO. 6  
PERFORATIONS

Total .....	10
Type (Large bow) .....	9
(Small bow) .....	1

Most occurred in ignorant, uncooperative clinic patients in whom the insertion of the device was technically difficult. The one with the small bow was in a private patient who had a distorted cervical canal as the result of a long laceration extending to the

vaginal vault. Six of these perforations were complete in that the device was floating free in the peritoneal cavity, and four were partial, being imbedded in the wall of the uterus. It is surprising how easily and painlessly this can occur especially when the patient is four to seven weeks post-partum. It is also surprising that no infection resulted from any of these. When the abdomen is opened there is practically no reaction to the pessary. Occasionally a thread-like adhesion is found. When serial x-rays were taken the IUD will be seen to migrate to the various segments of the peritoneal cavity. The case that pin-pointed our attention to this unfortunate complication was one in which the patient suffered an acute intestinal obstruction when a knuckle of the bowel herniated through the loop of a Birnberg Bow. Fortunately, this was caught in time, and the patient recovered. All of these accidents occurred in the first two hundred of our series, and since then mersilene threads have been attached to each one of the devices that did not have it. With this marker we feel that this incident should occur less frequently, or hopefully not at all. It sometimes happens that the patient has violent lower abdominal cramps after the insertion of a device, and the physician is faced with the possibility that he may have perforated the uterus. I have sweated out several of these situations in which the patient responded to narcotics. In each case the device was determined to be in the uterine cavity. The mechanism of this pain is unknown.

Four devices were inserted in uteri that contained an early pregnancy. In each case it happened in an ignorant and unintelligent clinic patient who had no idea when her last period ceased. In one of them the patient was bleeding at the time of insertion and it was thought that this represented a period, when in fact, it was a threatened abortion. And in the other three the periods were alleged to have terminated two to four weeks before the device was placed inside the

uterus. In each case it remained there four to six weeks before the patient aborted. This is an unfortunate accident but is one that will be seen from time to time and is a hazard that has to be assumed. In my opinion in this class of patient it is useless to give them any other form of birth control for a period of thirty to sixty days and keep them under close surveillance to be sure that a bleeding episode results.

Five women were found to have carcinoma in situ in this series (a smear is done routinely in each case). Four of them had a positive pap smear turn up at the time of the original insertion and one about eight months later. All had surgery to confirm the diagnosis, and four underwent hysterectomies. One refused therapy and is still at large.

The device is inserted preferably during menstruation as this is the best guarantee existing against the possibility of pregnancy. Also, the cervix is softer and, as a result, the patient experiences less pain when it is dilated. If the patient is not having a period, she should be questioned regarding sexual exposure, contraceptive protection and the date of her last delivery. Extreme care must be exercised when introducing an IUD into the uterine cavity in the early weeks postpartum. The uterine wall is very soft and can be perforated easily. However, the cervix is very negotiable at this time, and the pain of insertion is most often minimal.

A routine abdominal and pelvic examination is done, and the position of the uterus is determined and the consistency of the cervix evaluated. The glove is now discarded so that tactile sensation is not diminished. The speculum is introduced and secured by opening it widely. The anterior lip of the cervix is seized with a single tooth tenaculum, and traction is made toward the physician. This tends to straighten the uterine canal and facilitate the introduction of sounds and pessary. This maneuver causes little or no pain unless the bite is made deeply into the fibrous substance of the cervix. The fine sound is

now pushed gently into the uterine cavity to double check the position of the organ and to assist in passing the larger instruments. Dilatation through 6 French is sufficient in most cases although the use of Number 8 is sometimes needed.

A local block with 1% xylocaine (10 c.c. at four and eight o'clock) will offer excellent anesthesia but is seldom necessary. The use of antiseptics in the vaginal cavity and the wiping away of mucoid or purulent secretions is of no value. A cervical erosion is no contraindication to the introduction of an IUD and can be cauterized once the device is in place. Soaking the instruments in any good antiseptic for a few minutes is all the sterilization required. In my office I use a small amount of carbolic acid and green soap in spigot water as this does not rust the instruments.

The largest IUD of each type will suffice for about 95% of all patients. However, for those with less commodious uteri (or in nulliparas) one of the smaller devices will have to be used. Detailed advice concerning this point and about the positioning of the pessary is furnished in the printed instructions that are enclosed with any IUD's purchased.



Fig. 3. Instruments used in inserting IUD's.

Listed below are the materials and instruments necessary in using these devices: (Fig. 3)

- Cystoscope pan and cover
- Open-sided speculum
- Fine sound
- 3 Hegar dilators (Sizes 3-4, 5-6, 7-8)



Single tooth tenaculum  
Pessary and introducer  
Packing forceps  
Scissors  
Oblong pan (for dirty instruments)  
Cotton balls (in case of bleeding)  
Capsules of Phenaphen #3  
Carbolic acid (or any antiseptic)  
Smelling salts  
IUD extractor  
Kotex  
Gloves  
K-Y Jelly  
Kleenex  
Green soap

It is hoped that the profession will not take too pessimistic an attitude toward our family planning endeavor since the complications have been emphasized rather than the end results. Because the series is small and the follow-up incomplete, no attempt was made to express our statistics in terms of years of sexual exposure or in the percentage of successful patient use of any one method of contraception. It is felt that the dramatic decrease in the colored birth rate in Virginia Beach points out more emphatically than anything else the fruits of our labors.

TABLE NO. 7  
BIRTH RATES

	1964	1960
Virginia Beach C	479	1122
W	2763	3271
Chesapeake C	605	689
W	1430	1194
Portsmouth C	1156	1170
W	1500	1832
Norfolk C	2772	2514
W	5550	6069

This race represents almost 100% of our indigent population. The rate for whites in this area and for both races in all surrounding political subdivisions has remained rather stable.

Our birth-control program is burdened with many imperfections. Because of these we are failing to reach many persons who need our services badly. The public and the

doctors require education. Problems of distribution of drugs and transportation of patients to clinics are primitive or non-existent. Additional legislation to broaden our sterilization act is required. Those who are public liabilities must cease producing unwanted offspring. Mentally defective persons and morally irresponsible juveniles should be forced to accept contraceptive protection before they become pregnant. Carriers of hereditary defects must likewise be controlled. An intrauterine device does not stigmatize them publicly, upset them emotionally nor deprive them of the power of procreation should they ever qualify to exercise such judiciously and sensibly. The use of birth control has never made anyone more promiscuous nor changed a person's moral viewpoint. Any attempt to produce a "Great Society" will be useless unless family planning and population control are made its primary aim.

Acknowledgement is made to Dr. R. W. Jessee of the State Health Department, to G. D. Searle and Company, to Miss Sarah Thomas of Planned Parenthood and to Dr. William Garrett and Dr. Madge May and the nurses of the Health Departments of Virginia Beach and Chesapeake in initiating and propagating this program.

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# "Mima Polymorpha" Meningitis—Post-Traumatic

## Comment and Report of a Case

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*Although a common inhabitant of the body surface, Mima Polymorpha rarely causes infection. A case of post-traumatic meningitis due to this organism is reported.*

ALTHOUGH there have been nineteen previous cases<sup>2-13</sup> of "Mima Polymorpha" meningitis reported in the English literature, none have been post-traumatic. This is of importance in that the organism is commonly found on the skin and other areas of the body,<sup>17</sup> it resembles *Neisseria* strongly<sup>1</sup> and it has an unpredictable antibiotic sensitivity record, often being resistant to penicillin.<sup>4,8,10,18</sup>

The tribe "Mimeae", of which "Mima Polymorpha" is a species, was first described by DeBord<sup>1</sup> in 1939 and given its name because it mimicked *Neisseria* closely. He described a short, gram negative pleomorphic encapsulated rod that appeared almost identical to *Neisseria* on plain agar and as a rod of filament in broth. "Mima Polymorpha" was separated as a species, due to the characteristics of being non-mobile and not fermenting sugars.<sup>1,15</sup>

The first case of meningitis due to the organism was reported by DeBord<sup>2</sup> in 1948. Since then there have been eighteen others.<sup>3-13</sup> However, all of these cases were either a primary illness or were preceded by an infection of another body area.<sup>8,13</sup> "Mima

Polymorpha" has been previously described in association with head trauma. Deacon<sup>15</sup> reported culturing the organism from brain tissue following cranial injury, and Graver<sup>19</sup> reports finding it in a cerebrospinal fluid fistula of a hydrocephalic youth following surgery. In a series of infections of "Mima Polymorpha" in surgical wounds, Green et al.<sup>16</sup> report an increased incidence in procedures of the head and neck.

A brief illustrative history follows of an unusual case of post-traumatic meningitis incriminating this organism.

### Case Report

A 53 year old, previously well, sawmill worker was struck eleven days prior to admission, in the left shoulder and forehead by a block of wood thrown from a mechanical saw. He was unconscious for twenty to thirty seconds and was observed to be bleeding profusely from the nose. Radiographs at a local hospital revealed an extensive comminuted fracture involving the left frontal bone and extending downward through the frontal sinuses. He was started on small doses of penicillin and streptomycin. One week after injury his state of consciousness began to cloud, and he developed headache and a slightly stiff neck. His WBC rose to 14,000. A lumbar puncture was refused by the patient; however, he was started on small doses of gantrisin, chloromycetin, keflin and terramycin. Penicillin and streptomycin were discontinued. Over the next few days the patient's condition deteriorated progressively, with mental confusion. Clear cerebrospinal fluid rhinorrhea was noticed for the first time.

From Roanoke Memorial Hospital.

The patient was referred to the Neurosurgical Service of Roanoke Memorial Hospital eleven days after injury. On admission he was drowsy and there was mild nuchal rigidity. His temperature was 102°. Chest x-rays revealed probable resolving right upper lobe pneumonitis. A lumbar puncture revealed an opening pressure of 150 mm of water. Cell count was 30 WBC; 99 per cent polymorphonucleocytes; protein 156 mg%; sugar 24 mg%. No organism seen on the smear and blood and cerebrospinal fluid cultures were negative. Nasal drainage sugar was 58 mg%. The patient was started on ampicillin, 3 gms/day intravenously, and streptomycin, one gram every twelve hours intramuscularly, and he gradually improved. The cerebrospinal rhinorrhea was no longer evident. On the fifteenth hospital day the streptomycin was discontinued. On the sixteenth hospital day he began spiking a fever of 101-102° Fahrenheit, and complaining of headache. This continued over the next few days with mild deterioration of his sensorium and increasing nuchal rigidity. On the eighteenth hospital day a lumbar puncture revealed an opening pressure of 150 mm of water. Cell count was WBC 95 with 69 polymorphonucleocytes. Gram stain and smear were negative for organisms. Protein was 142 mg%, sugar was 38 mg%. Cerebrospinal fluid culture revealed "Mima Polymorpha 'variety oxidans'" sensitive to tetracycline, chloromycetin, terramycin, mandelamine, kantrex, declomycin and ampicillin, and resistant to keflin, penicillin, aureomycin, furadantin, erythromycin, polymixin B, streptomycin, tegopen and lincocin. He was started on kantrex 0.5 gm intramuscularly twice daily, and five million units of crystalline penicillin a day intravenously, prior to receiving the sensitivity report. On the twenty-first hospital day his temperature was normal with a general improvement in his condition. On the twenty-ninth hospital day the patient again began spiking a 101-102° Fahrenheit fever and complained of frontal headache,

low back and bilateral leg pain and general malaise. His penicillin and kantrex were discontinued and he was started on chloromycetin 4 grams intravenously per day. On the forty-fifth hospital day the chloromycetin was discontinued. He was discharged on the forty-eighth hospital day and remained well four months after discharge from the hospital. No further cerebrospinal fluid rhinorrhea has been evident and operative intervention has accordingly been deferred.

### Comment

The organism "Mima Polymorpha" is ordinarily only a commensal. However, it is an opportunist and can be virulent.<sup>14</sup> Along with meningitis, it has been incriminated with subacute bacterial endocarditis, septicemia, urinary tract infections, pyarthrosis<sup>3,18,20,21</sup> and a variety of other illnesses. "Mima Polymorpha" seems to be possessed with little invasive power of its own and frequently relies on a previous breach in the body integrity for a portal of entry. Indwelling urinary and vascular catheters and wounds often provide this opportunity.<sup>16</sup> It has also been observed that the organism has been a more frequent predator of the very young, the old, or generally the debilitated.<sup>14,16</sup> It is sensitive to available antibiotics, but often has unpredictable patterns, being frequently resistant to penicillin.<sup>4,8,14,18</sup> "Mima Polymorpha" is most often sensitive to tetracyclines and chloromphenicol,<sup>3-9,14</sup> but these drugs are often not employed initially in the afflicted patient. Tetracycline seems to be the most effective,<sup>14,18</sup> but it is also the most seldom used antibiotic.

### Summary and Conclusions

An increased vigil should be maintained for the organism, "Mima Polymorpha". It is a common inhabitant of the corporal surfaces and can be easily introduced into the body and cause infections. It is often resistant to penicillin. The first case of post-



traumatic meningitis is reported. This is of particular relevance because of "Mima Polymorpha's" close resemblance to *Neisseria*, and its ability to be insensitive to common forms of antibiotic therapy.

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### Clinical Center Study of Hodgkin's Disease

The cooperation of physicians is requested in a continuing study of Hodgkin's disease being conducted by the National Cancer Institute at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Particularly desired are patients who have had no previous treatment or minimal prior treatment. All clinical stages of biopsy-proven disease are acceptable. The major purpose of the study is to determine the curative potential of intensive radiotherapy

in localized cases and to evaluate combination chemotherapy and X-irradiation in patients with generalized involvement.

Physicians interested in having their patients considered for the study may phone or write to: Paul P. Carbone, M.D., The Clinical Center, National Institutes of Health, Building 10—Room 12-N-226, Bethesda, Maryland 20014, Telephone: 656-4000, Ext. 64251 (Area code 301)

# Clinicopathological Conference . . .

## **Chronic Meningitis with Systemic Disease in a Young Negro Male**

Prepared and Edited by

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### **DISCUSSANTS:**

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### **Clinical History**

The patient was a 26 year old Negro male who was admitted to the Medical College of Virginia Hospitals on 10/9/64 because of generalized weakness and loss of weight associated with uncontrollable hiccups. The patient had had hiccups for the past two years and had recently undergone investigation of this at another hospital where a cholecystectomy was finally performed. Since the operation he had been troubled with vomiting, weight loss and anorexia although these symptoms were gradually improving at the time of admission. About two months before admission the patient was noted to be weaker, developed a fine tremor of his hands and had some difficulty in walking. He had had epilepsy since childhood which had been treated with phenobarbital, Thorazine, Mysoline and Dilantin. Seizures were generalized and during the seizure he would frequently bite his tongue and occasionally had sphincter incontinence. His last seizure had been a month before admission.

*Past medical history:* A supraclavicular lymph node biopsy in 1962 was reported as showing non-caseous granulomata with no demonstrable acid fast or fungal organisms.

*Physical examination:* BP 160/100, P. 100, R. 24, T. 98.6°. The patient was a well-developed, well-nourished, young Negro male who was alert and cooperative but mentally dull. He had continuous hiccups. Pertinent physical findings included mild gingival hyperplasia associated with very poor oral hygiene. There were shotty bilateral cervical and submental nodes. The chest was clear to percussion and auscultation. Cardiac apical impulse was in the 5th intercostal space in the midclavicular line. There was a regular rhythm, no murmurs were heard and no thrills were palpated. The abdomen was soft and nontender. There was a right paramedian, well-healed incision. No organs or masses were palpated. Neurological examination elicited moderate generalized weakness. There were a few nystagmoid movements on bilateral gaze. There was an ataxic gait with a mild truncal ataxia and slightly increased but symmetrical deep tendon reflexes.

*Laboratory data:* The urine was alkaline with a specific gravity of 1.015. Albumin, glucose and acetone were negative. Microscopic examination of the urine sediment was negative. Hemoglobin 8.4 gm.%, white count 6,000/mm<sup>3</sup> with 59% polys, 2% eosinophils, 35% lymphocytes and 4% monocytes. MCV 62, MCH 19, MCHC 30. Blood sugar 63 mg., BUN 9 mg. per 100 ml. Serum calcium 10.6, serum phosphorus 3.2 mg. per 100 ml. Total bilirubin 0.2 mg. per 100 ml. with less than 0.5 direct reacting. Serum alkaline phosphatase 1.8 Bessie-Lowry units. A sickle cell preparation was negative. A serological test for syphilis was negative. A reticulocyte count was 2.6%. The serum protein level was 7.6 gm.

per 100 ml. and the electrophoretic pattern showed 50.7% albumin, 5.8%  $\alpha_1$ , 8.5%  $\alpha_2$ , 11.3% beta and 23.7% gamma globulin. The serum iron volume was 9 micrograms %. Four stool specimens were positive for occult blood. A peripheral smear was interpreted as showing microcytic, hypochromic erythrocytes with increased poikilocytosis and increased regeneration. There was a slight neutrophilia. A bone marrow aspirate revealed normal cellularity with an erythroid hyperplasia; the marrow stain for iron was negative. Gastric washings for AFB were negative. A lumbar puncture showed normal dynamics. There were 20 cells in the cerebrospinal fluid with 4 polys and 16 lymphs. The protein was 260 mg.% and sugar was reported as 20.7 mg.%. Cultures were taken which subsequently proved negative for AFB and other pathogenic organisms. India ink preparations of the cerebrospinal fluid was negative. A PPD skin test, intermediate strength, was negative. Sigmoidoscopy was negative.

Chest x-ray showed bilateral prominence of the hilar with prominence of the peripheral vasculature. There were also slight patchy infiltrates of the lung parenchyma bilaterally. Cardiac silhouette was within normal limits and the osseous thorax was intact. Films of the skull, right hip and pelvis were negative, as were the films of the hands and feet. An upper GI series was thought to be within normal limits, although a repeat examination a month later showed transpyloric prolapse of the gastric mucosa at the base of the duodenal bulb. An echoencephalogram was reported as normal. A pneumoencephalogram showed questionable irregularities of the anterior surface of the pons. No other abnormalities were noted. Brain scan showed an area of increased uptake in the right temporal lobe. Pulmonary function studies showed severe restriction of the vital capacity without spiographic evidence of significant airway obstructive disease. There was a moderately

severe reduction in arteriolar  $PO_2$  with a mild respiratory acidosis. Voluntary hyperventilation corrected the  $CO_2$  retention and the arteriolar hypoxemia. An electroencephalogram was consistent with mild diffuse cerebral damage or dysfunction. An electrocardiogram was negative except for sinus tachycardia. An electromyogram was interpreted as showing a motor neurone lesion of the left lower extremity. No myelopathic units were seen.

The patient's hospital course was characterized by periodic seizures and continued hiccups. He was started on treatment with ferrous sulphate with a gratifying reticulocyte response but with little change in his hemoglobin concentration. His anticonvulsive regime continued at essentially the same dose levels. He was started on INH, streptomycin and prednisone. Under this regimen he gradually improved to the point where he was able to undertake physical therapy. He was discharged on 3/5/65 to be followed as an outpatient.

He was seen in the out-patient's department on 3/10/65 at which time his prednisone was discontinued because there had been no improvement in his hiccups, following what was believed to be an adequate trial.

He was readmitted to the hospital two months later in May, for treatment of decubitus ulcers on the sacrum and right greater trochanter. The patient had developed progressive weakness after discharge from the hospital and had become bedridden. Dark spots appeared on his hip and back and these gradually enlarged and broke down, precipitating his last admission.

*Physical examination* revealed T. 101.2°, P. 96, R. 32, BP 144/110. He was a cachectic, chronically ill appearing young Negro male who was not oriented as to time and place but able to answer simple questions and respond to simple commands. There was incontinence of urine. Five inch decubitus ulcers were present on the right greater trochanter and sacrum, smaller lesions



were on both lateral malleoli. There were flexion contractures of both knees. Both feet were markedly edematous. There was generalized muscle weakness, with severely decreased lower limb reflexes but active deep tendon reflexes in the upper extremities. The sweating level suggested a lesion extending to about the first thoracic dermatome.

*Laboratory data:* Hemoglobin 9.6 gm.%, white count 17,000/mm<sup>3</sup> with 88% neutrophils, 3% lymphocytes, 7% monocytes and 1% basophils. The urine was amber, cloudy and acid with a specific gravity of 1.015. Albumin, sugar and acetone were negative but the specimen was loaded with white cells. The BUN was 15, blood sugar 130 mg. per 100 ml. Serum protein level was 5.7 gm. per 100 ml., albumin 1.5 and globulin 4.2. The cerebrospinal fluid contained 4 white cells, 2 polys and 2 lymphs. Its protein was 60 mg. per 100 ml., sugar 15, chlorides 99 mEq/l. Chest x-ray showed no change from the previous admission.

The patient's respirations became quite depressed following a generalized seizure and he required maintenance on the Bennett respirator for several days. He was re-started on steroids, INH and streptomycin and showed sufficient improvement to permit attempted mobilization. On 7/5/65 he developed acute pulmonary edema and died promptly despite vigorous therapy.

### Clinical Discussion

*Dr. Ronald L. Brummer:* This young man was well except for "idiopathic epilepsy" until 1962 when he had x-ray changes which you shall see and a scalene lymph node biopsy which showed non-caseating granulomata. His hiccups apparently date back to 1962; I wonder if he hiccuped as a result of phrenic damage secondary to the biopsy procedure in the scalene area which occasionally runs very close to the phrenic nerve. He was admitted to another hospital for evaluation of his problems in 1964, and

had a cholecystectomy. Upon admission to MCV in October, 1964, he was still hiccuping in addition to having other problems. He remained in the hospital from October until March, was treated during part of his stay with streptomycin, isoniazid and steroids and was discharged to be followed in the out-patient clinic. Early in March of 1965, five days after discharge, his steroid medication was discontinued. I don't know whether the isoniazid and streptomycin were continued. After an eight-week stay at home he returned to the hospital extremely weak, with contractures, with decubitus ulcers and in generally desperate condition on admission. He appeared to be improving under therapy but died rather suddenly in acute pulmonary edema.

We have a man who had evident lesions in practically every organ system in his body. He had evidence of GI bleeding on his first admission. He had some prolapse of a giant mucosal fold demonstrated on upper GI series. He had peripheral neuropathy. He was anemic. He had a low serum iron. He had an hypoventilation syndrome on his first admission with a high CO<sub>2</sub> and a low oxygen. These last problems were easily corrected by asking the man to breath a little harder than usual. Assuming that this complex is one disease, I think that the diagnosis will be largely made on the basis of the x-rays.

*Dr. M. Pinson Neal, Jr.:* As well as a lengthy protocol, the patient ended up with about three jackets of x-rays so we shall try to show only the pertinent films. The chest film of August, 1962, shows a basically normal cardiovascular silhouette with large bilateral hilar masses as well as right peritracheal node involvement (Fig. 1). The peripheral lung fields are within normal limits. This film suggests sarcoid or lymphoma. Sarcoid is characteristically symmetrical whereas lymphoma is not. An additional aid would be that in sarcoid the spleen is not commonly enlarged enough to be seen on the chest film as is often the case

in lymphoma. The bilateral hilar involvement and right peritracheal node is more consistent with a sarcoid than with lymphoma. Hand films were taken in 1964 which show none of the bony manifestations of sarcoid. These changes occur only in about 15% of the cases of proven sarcoid. The

granulomas such as tuberculosis or fungus infections are harder than neoplastic process to exclude. The patient's laboratory work and skin tests tend to exclude deep mycosis and tuberculosis. The fact that his tuberculin skin test with an intermediate PPD was negative practically rules out the diag-



Fig. 1. The 1962 roentgenogram reveals bilateral hilar masses and distinct right peritracheal node involvement. The peripheral fields, heart and bones appear normal.



Fig. 2. The 1965 film shows heightening of previous changes plus interstitial infiltrate and pulmonary congestion. One can see the enlarged cardiac silhouette and the tracheostomy tube.

GI series shows the prolapse of the mucosa into the base of the bulb which in the majority of people would be a normal finding. There was no evidence of intrinsic disease of the stomach. The two films from February, 1965, show a distinct diminution in the size of the hilar nodes. Cases of sarcoid frequently will show spontaneous exacerbations and remissions of the chest findings. The June, 1965, film (Fig. 2) reveals an increase in size of the hilar nodes, pulmonary congestion and interstitial infiltrates. A tracheostomy tube is present.

*Dr. Brummer:* The differential diagnosis based on the x-rays, history and clinical course is limited to the lymphomas, infectious granulomas and sarcoidosis. A clinical course such as this with x-rays looking relatively good in early 1965 as this man's did would be exceptional were this leukemia, lymphoma or Hodgkin's. The infectious

nosis of active tuberculosis. At least 95% of patients with tuberculosis have a positive skin tests with the intermediate PPD. We are then left with a number of non-infectious granulomas and the only one of real note in a young colored male is sarcoidosis—which is what I think this man had. He had a number of the less common findings and was missing some of the more common findings of sarcoidosis.

The Internal Conference on Sarcoidosis in 1960, yielded this definition or description of sarcoid: "Sarcoidosis is a systemic granulomatous disease of undetermined etiology and pathogenesis. Mediastinal and peripheral nodes, lung, spleen, liver, skin, eyes, phalangeal bones and parotid glands are most often involved, but other organs and tissues may be affected. The Kveim reaction is frequently positive and the tuberculin-type hypersensitivities are frequently de-



pressed. Other important laboratory findings are hypercalcuria and increased serum globulins." So far we are in good shape. We don't have urinary calcium levels so will just assume that they were high. He certainly did have an increase in his serum globulins. "The characteristic histological appearance of epithelioid tubercles with little or no necrosis is not pathognomonic and tuberculosis, fungal infections, beryllium disease and local sarcoid reactions must be excluded. The diagnosis should be regarded as established for clinical purposes in patients who have consistent clinical features together with biopsy evidence of epithelioid tubercles or a positive Kveim test."<sup>1</sup> We have a positive biopsy and we have the clinical features, but a Kveim test was not done.

According to Hardy,<sup>2</sup> this disease was first described as "papillary psoriasis" and "Mortimer's malady" by Hutchinson in 1869. Besnier called it "lupus pernio". In 1899, Boeck described "multiple benign sarcoid" and in 1905, "benign miliary lupoid". Heerfordt described uveo-parotid fever in 1909, Jungling in 1911, noted "osteitis tuberculosa multiplex cystica" (sounds like a dermatological diagnosis), the cystic lesions in the small bones of the hands. Schaumann described the disease as "benign lymphogranuloma" in 1917. In this country the disease is called Boeck's sarcoid. The term sarcoid represents only a tissue reaction and every few years a small pocket is chewed into this tissue reaction as etiologies are found which cause sarcoid reactions. Beryllium, for example, causes changes which cannot be distinguished microscopically from what we call typical sarcoid. Tuberculosis, before it caseates, looks like sarcoidosis. There are sarcoids which do show very small areas of necrosis which can be difficult to tell from early caseation. The lymph nodes draining Hodgkin's disease may look like sarcoidosis. The nodes draining various malignant tumors may also present the same picture. Some cases of "sar-

coidosis" have been shown to actually be histoplasmosis.

The etiology of classical sarcoidosis is not known. It was at one time thought to be an anergic form of tuberculosis. Viruses have been indicted. Fungus infections have been suggested. Histochemical studies on sarcoid lesions have shown foci of mycolic acid. Mycolic acid is also found in pine pollen and in the tubercle bacillus. The pine pollen hypersensitivity theory<sup>3</sup> came into great favor a few years ago but it has since fallen out of favor. It has been suggested that it is an autoimmune disease with high molecular weight gamma globulins present such as in rheumatoid arthritis. We don't know if the hyperglobulinemia in our patient was due to increased 19S or 7S. It has been suggested recently that some cases of sarcoidosis may be due to atypical mycobacteria.<sup>1</sup> Studies of the birthplace of sarcoid patients in this country largely fell into a crescent which extends through the southeastern part of the United States, curves through the outer part of Florida, across Louisiana, Mississippi and into Texas.<sup>4</sup> Sarcoid is common in Negroes and in this area the Negro population is very high. However, since sarcoidosis is also common in Scandinavia where Negroes are few, attempts were made to correlate factors common to those two areas. It was found that the best correlation was with the sandy, loamy soil common in both areas. The sarcoid areas corresponded very closely with distribution of the Loblolly pine tree. The common pine that grows in the southeastern part of the United States is also common in Scandinavia. This hypothesis of pine pollen etiology has not been proven, nor has it been excluded.

The diagnosis of sarcoid can be very easy or can be very difficult. Our patient today had the most common area of involvement—the lymph nodes. He had a lymph node biopsy performed which showed a non-caseating granuloma. This together with the chest x-ray in 1962 would have made



the diagnosis as far as I was concerned. A very high percentage of people with sarcoidosis will show the classical eye changes under slit lamp examination. Conjunctival biopsy is positive in about one-third of the cases even though the conjunctivae may look normal. The liver is a common site of involvement and liver biopsy often helps with the diagnosis by showing the presence of non-caseating granulomas. Skin lesions, when present, are classical. Skin lesions in sarcoidosis are seen more commonly in Negroes than in whites. Random muscle biopsy is positive in approximately 40% of cases of sarcoidosis. X-rays of the bones, hands and feet are positive in something less than 20% of the time in known cases. Serum protein changes are nearly always present. The increases are in the alpha<sub>2</sub> and the gamma globulins. Hypercalcemia is not uncommon, hypercalcuria is more common. The hypercalcemia may be very serious and lead to kidney damage and death just as hyperparathyroidism does. Steroids are specific therapy for the hypercalcemia. The alterations in calcium metabolism are thought to be due to increased absorption from the gut due to an endogenous Vitamin D hypersensitivity so that a great deal more calcium than normal is absorbed.

This man had other complications that can be explained on the basis of his disease. Upper GI bleeding has been described from sarcoid lesions of the bowel. I think it is at least possible that there may have been some leakage of blood from the area of prolapsed mucosa. Sarcoid occasionally involves the nervous system, principally the meninges and the peripheral nerves. I think this man has meningeal and peripheral nerve involvement that contributed greatly to his deterioration.

#### WARD DIAGNOSIS:

1. *Boeck's sarcoid, generalized.*
2. *Idiopathic epilepsy.*

#### DR. DONALD L. BRUMMER'S DIAGNOSES:

1. *Boeck's sarcoid involving lymph nodes, lungs, meninges, peripheral nerves and GI tract.*
2. *Idiopathic epilepsy.*

*Dr. Cary G. Suter:* The spinal fluid wasn't mentioned. It is important to realize that the spinal fluid was consistent with sarcoidosis throughout the course. It showed a few cells, mostly lymphocytes, an increased protein and a low sugar. The low sugar is typical of the spinal fluid in sarcoidosis. He had severe neurological involvement both peripherally and centrally. He had hiccups from the lesion in his chest or a central lesion and had disturbed consciousness. I believe his seizures were not related to sarcoid since he had had them since childhood. They were not "idiopathic epilepsy". His electroencephalogram did not show the type of discharge seen in genetic epilepsy, so he may have had some old injury.

#### Pathological Discussion

*Dr. Fairfield Goodale:* This patient was malnourished to the point of cachexia. He had large decubitus ulcers including one extending to the head of the right femur.

There was generalized lymphadenopathy. The largest nodes were in the mediastinum and along the aorta. The axillary, cervical and mesenteric nodes were also prominent. The heart was unremarkable beyond evidence of mild atrophy.

The immediate cause of death was acute pulmonary edema. The entire tracheo-bronchial tree was filled with this frothy fluid. The external surface of the lungs was not remarkable except for the apex of the right middle lobe where a firm mass puckered the parietal pleura (Fig. 3). This corresponded to that rather large node which was apparent in the first film that Dr. Neal dis-

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CARY G. SUTER, M.D., *Chairman, Division of Neurology, Medical College of Virginia.*

cussed. It was a partly calcified lymph node containing anthracotic pigment and white granular material. The spleen weighed 185 gm. which is within normal limits. The cut surface showed small white nodules throughout the pulp.



Fig. 3. Posterior view of the congested and fibrotic lungs. The large, granulomatous mass of parabrachial lymph nodes (arrow) is the right lung field mass seen on both x-rays.

*Dr. Page Hudson:* Before we go any further, what gross anatomical diagnoses were you considering at this point?

*Dr. Goodale:* Without the history, I think that in a man this age with lymphadenopathy, diffuse splenomegaly and with this granulomatous appearance of the spleen, the most likely diagnosis would be Hodgkin's disease. With the history we still have to deal with Hodgkin's disease although other granulomata now become also quite likely.

The microscopic appearance of the active lesion in this case was that of nests of epithelioid cells, a few multinucleated giant cells, rings of lymphocytes about the nests, a thin rim of fibrous tissue around these. This process is both active and chronic. Many of the lesions had become almost entirely fibrotic and hyaline, resembling amyloid deposits. We did not see any granulomata

in the skeletal muscle. The muscle fibers varied greatly in size and as is commonly seen in disuse atrophy. The brain and spinal cord revealed an extensive involvement of the leptomeninges by this granulomatous disease (Figs. 4, 5). Some of the cranial nerves were involved by granulomata.

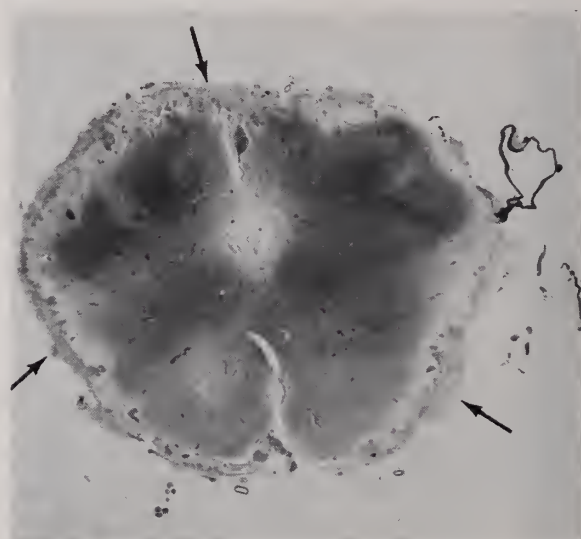


Fig. 4. The brain stem shows gross thickening (arrows) of the meninges by the granulomatous reaction, "sarcoid meningitis".

For an explanation of the hiccups we might postulate that the lymph nodes in the mediastinum involved the vagus or the phrenic nerve. However, the central nervous system lesions were more likely responsible. I believe his terminal cardio-respiratory failure was also of central origin.

*Dr. John H. Moon:* What is the significance of "granulomas"?

*Dr. Goodale:* There are two types of "tuberculoid" granulomas: the soft tubercle in which central necrosis, usually caseous necrosis, occurs and the hard or so-called "sarcoid" tubercle in which necrosis is rarely seen. We are dealing in this case with a hard tubercle and it is our job to try to find out which of the numerous causes of hard tubercle formation was the disease present in today's case. A battery of carefully examined special tissue stains for fungi and for acid-fast bacilli showed no organisms. The



only known virus that may cause a granulomatous reaction, lymphogranuloma venereum, is obviously not present. There is no evidence in any of the sections of protozoa. We have no history that this man was exposed to beryllium. No beryllium, talc, or silicon material was found. The three types of giant cell inclusion bodies commonly associated with sarcoid, the asteroid, crystalline aggregates and the calcific Schaumann body, are actually seen in a variety of granulomatous diseases. Over the years specific diseases are identified and sep-

happens, the man who first described the entity was not the one whose name we stick to it.

Dr. Garcia, would you comment on central nervous system involvement in sarcoidosis?

*Dr. Julio H. Garcia:* The sarcoid reaction occurs rarely in the central nervous system even though it involves most other tissues in typical cases. When it does occur it may evoke the presenting signs and symptoms in the way of cranial nerve deficits,

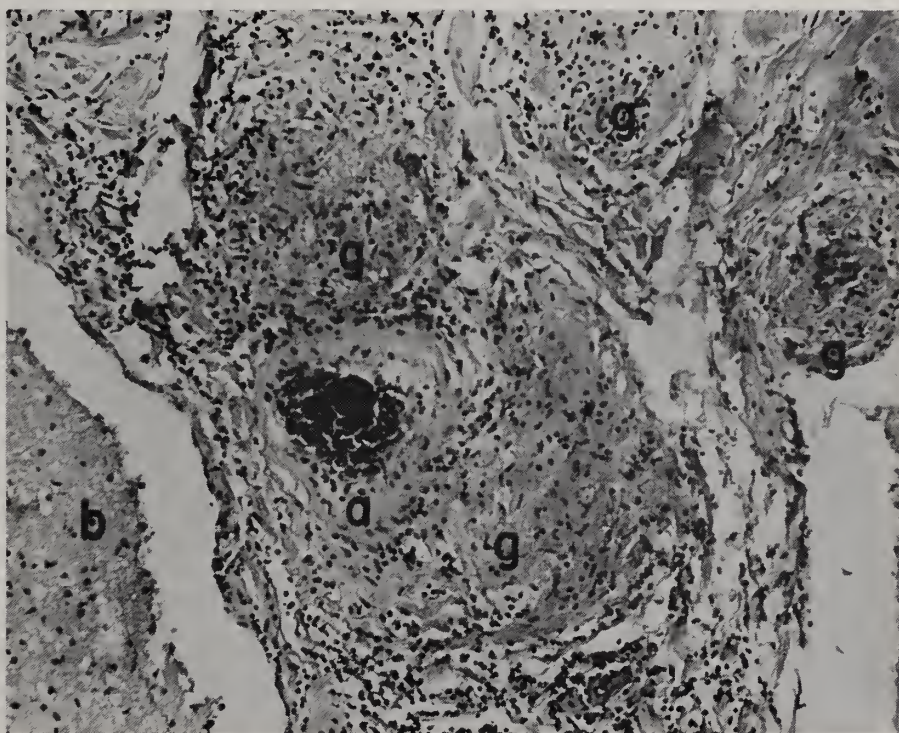


Fig. 5. Numerous non-caseous granulomata are the major portion of the meningeal thickenings (a—artery, b—brain, g—granuloma).

arated from the less well-defined sarcoid. Some of these are fungal in origin, such as sporotrichosis, others are due to exogenous minerals such as beryllium.

We are left with a great shadowy group of cases which we call sarcoid. Professor Boeck first used the term "sarcoid", as the tissue reaction reminded him of sarcoma—tumor of the flesh. "Mortimer's malady", which Hutchinson described earlier, was apparently the same thing, but, as sometimes

increased intracranial pressure, epilepsy, or pituitary insufficiency. The granulomata are seen in the leptomeninges, extending along the vessels in the Virchow-Robin spaces into the brain, and about the spinal cord. Mass lesions and true intracerebral involvement are almost unknown.

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JULIO H. GARCIA, M.D., Formerly Assistant Professor and Chief of Neuropathology Laboratory, Department of Academic Pathology, Medical College of Virginia; now Associate Professor, University of Tennessee Medical Center, Memphis, Tennessee.



The patient today had severe, diffuse meningeal involvement. No other defects were seen in the brain and I have no specific lesion to account for the seizures which certainly, in his case, preceded the sarcoid reaction.

*Dr. Brummer:* We used to think sarcoid, as we define the disease clinically, had a good prognosis. It has become apparent in recent years that the prognosis is worse than that of tuberculosis. The death rate from sarcoidosis is about 20-25%.

#### FINAL ANATOMICAL DIAGNOSIS:

*Sarcoidosis, generalized, with extensive central nervous system involvement.*

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#### New Catalog of Tape Recordings

A library of more than 300 one-hour tape recordings, devoted to comprehensive panel discussions and symposia on everyday office problems, has been released to the medical profession by the Audio-Digest Foundation, Los Angeles.

According to the Foundation's Medical Board, the 1967 "Catalog of Classics" makes available to individual physicians, hospitals, and clinics, ideal Journal Club and teaching material in seven specialty areas: Anesthesiology, Obstetrics-Gynecology, Surgery, Pediatrics, Internal Medicine, Ophthalmology, and General Practice. A number of tapes also focus on the Basic Sciences, Cancer, Psychiatry, Gastroenterology, Cardiology, Arthritis, Geriatrics, and Hematology.

The recordings represent distillates of on-the-spot recordings from several hundred major meetings of such groups as the Amer-

ican Medical Association, American College of Physicians, American Society of Anesthesiologists, American College of Obstetricians and Gynecologists, as well as condensations of major university postgraduate courses.

The selected recordings represent the latest and most authoritative reviews of modern-day diagnosis and treatment, in the actual voices of America's finest teachers and clinicians. This special library of titles represented the best of programs produced in the regular subscription programs of the Audio-Digest Foundation (a nonprofit subsidiary of the California Medical Association) during the past several years.

The Catalog of Classics is available free of charge and may be obtained by writing the Audio-Digest Foundation at 619 S. Westlake Avenue, Los Angeles 90057.

J. H. CALLICOTT, JR., M.D.

## **The Prothrombin Time**

The prothrombin time is a frequently used laboratory test for the detection of bleeding states and for regulation of anti-coagulant therapy. The test is performed in most hospital laboratories, and most physicians are familiar with its interpretation. The term "prothrombin time" is a misnomer, as the test measures prothrombin and at least four other coagulation factors.

Theories of blood coagulation are complex, but the end-point of all coagulation schemes is the formation of fibrin. The coagulation process can be divided into three phases: 1. thromboplastin formation, 2. conversion of prothrombin to thrombin, and 3. conversion of fibrinogen to fibrin. Conversion of prothrombin to thrombin can be considered to result from the interactions of two different pathways, the extrinsic and intrinsic. In the extrinsic, the tissue juices act as thromboplastin and react with certain plasma factors to convert prothrombin to thrombin, whereas in the intrinsic, plasma factors act to form thromboplastin and prothrombin conversion occurs without the presence of tissue juices. The prothrombin time is considered a measure of those plasma factors involved in the extrinsic system.

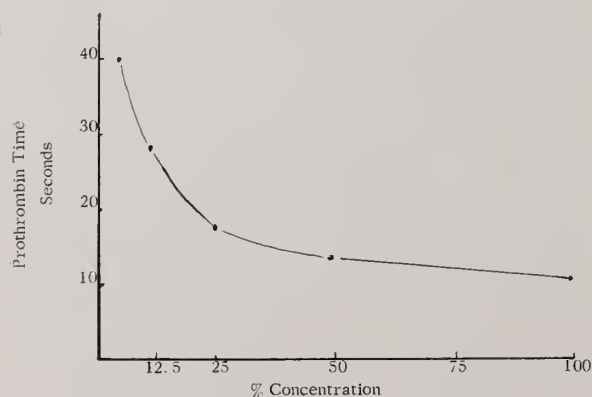
Many methods have been devised to measure the clotting factor activity involved in the extrinsic system, including the one-stage prothrombin time, the two-stage prothrombin concentration, the prothrombin and proconvertin (P and P) test and the Thrombotest. Each method offers certain advantages. The most popular method is the one-stage method introduced by Quick in 1935 as originally described or modified slightly. The advantage of this method is

that it is easily performed and most physicians are able to correlate readily the results and the clinical situation. On the other hand, the procedure has several disadvantages. One of these is the relative insensitivity of the test as gauged by the normal and slightly subnormal range of values where a change of only one or two seconds represents a wide range of "prothrombin activity". Another is that alterations in the concentration of the anticoagulant used to collect the blood can affect the test results. Excess anticoagulant will bind the calcium added during the performance of the test and falsely prolong the clotting time. Not uncommonly, the laboratory refuses to accept a specimen of blood because of improper anticoagulant-blood ratio.

The performance of a one-stage prothrombin time requires control plasma, test plasma, a source of thromboplastin and of calcium, a timing device, and a water bath. The thromboplastin may be obtained from commercial sources; however, a few laboratories may prefer to prepare their own reagents. Commercial thromboplastins are prepared from brain tissue or from a combination of brain and lung tissue and must be of optimal concentration. The calcium concentration is of importance and is usually 0.025 M  $\text{CaCl}_2$ . The test plasma and reagents are brought to 37°C. Then 0.2 ml. of the thromboplastin-calcium reagent are added to 0.1 ml. of plasma (control or test). The tube is then tilted manually or is agitated by a Nichrome wire until a clot forms. The time elapsing from the addition of the thromboplastin reagent until a clot forms is called the prothrombin time. The normal prothrombin time varies from 12-15 seconds, depending on the reagents and on the dexterity and visual acuity of the techni-

cian. The end-point using the manual, tilt-tube method is difficult to judge and requires considerable skill in order to achieve reproducible results. Recently, the introduction of mechanical timing devices has simplified the procedure considerably. The mechanical timing devices give less variation as well as results that compare with those obtained by the most skilled technicians.

The reporting of prothrombin time results presents a problem since no uniform reporting system exists. Basically, three methods are used. One method simply reports the control plasma and the patient's plasma in seconds, for example control 12 seconds, patient 24 seconds. Another method is to report a ratio of the control time to the patient's time, expressed in percentage, such as control (12) patient (24), or 50%. This percentage is called a prothrombin index. The third and most popular method is that of reporting "prothrombin activity" in percentage as obtained from a dilution curve. The dilution curve is prepared by making serial dilutions of a control plasma or plasma pool and plotting the results on standard graph paper. The undiluted control plasma is considered to have 100% prothrombin activity. A dilution curve relating clotting time to 0% concentration is shown below:



Most laboratories utilize a combination of reporting methods. Serious mistakes may occur if each physician does not familiarize

himself with reporting methods in the laboratories he uses.

The prothrombin time may be prolonged by a deficiency of one or a combination of deficiencies of the following plasma factors: 1. Factor I (fibrinogen), 2. Factor II (prothrombin), 3. Factor V, 4. Factor VII and 5. Factor X.

Since thromboplastin and ionized calcium are added in constant amounts, they are not variables in the performance of the test. It should be noted that several other clotting factors, especially Factor VIII and Factor IX are not involved. Consequently, the prothrombin time, unless modified, will be normal in the hemophilias, and other tests, such as the partial thromboplastin time, must be utilized to test for such conditions. Increased fibrinolytic activity or the presence of circulating anticoagulants also prolong the prothrombin time and also require special test systems for their study.

Certain information about specific factor deficiency can be gained from modification of the basic prothrombin time test. For example, if one adds normal plasma to a plasma with a prolonged prothrombin time and the prothrombin time is corrected toward normal, one might assume the presence of a factor deficiency (or deficiencies) in the test plasma. However, if the normal plasma does not correct the test plasma, one should think in terms of excessive fibrinolytic activity or circulating anticoagulants in lieu of a clotting factor deficiency. Also, specially prepared plasmas or serums may be utilized in efforts to correct a prolonged prothrombin time. Such reagents include aged normal plasma (low Factor V level, normal II), aged serum (source of Factor VII), or barium sulphate-absorbed oxalated fresh plasma (source of Factor V). Such methods of study find favor in small laboratories dealing with clotting problems only on rare occasions, whereas larger laboratories may utilize these as well as more precise methods for individual clotting factor assays.



The major use of the prothrombin time in clinical medicine is for regulation of therapy when indirect-acting anticoagulants are employed. These (the coumarin type drugs) interfere with synthesis of some clotting factors in the liver and thus act to lengthen the one-stage prothrombin time. Four clotting factors are affected; these are Factors II, VII, IX and X. The most sensitive factor to these drugs is Factor VII, followed by Factors IX, X and II. The one-stage prothrombin time is sensitive only to three of the four factors depressed (II, VII, and X).

The response of patients to the coumarin type drugs is quite variable and is determined by the rate of intestinal absorption, metabolism and excretion. These drugs usually are completely absorbed in several hours, but absorption may be slow and erratic. Peak blood levels usually occur 4-12 hours after ingestion. The rate of metabolism varies with each individual drug, but generally from 15% to 50% of the dose is metabolized daily. Usually, a lag of 24-48 hours exists between peak plasma levels and the therapeutic response, as measured by the prothrombin time. The duration of therapeutic responses varies with the plasma half-life, but usually the prothrombin time returns to pretreatment levels in 7-21 days following cessation of therapy. A rebound phenomenon may occur if the drugs are withdrawn acutely, thus their withdrawal should be gradual with dosage being tapered.

The desired therapeutic level of anticoagulation generally is considered to be adequate with a prolongation of the patient's prothrombin time to  $1\frac{1}{2}$  to  $2\frac{1}{2}$  times the control value in seconds or a level of 10-30% prothrombin activity as determined

by a dilution curve. However some consider a better range to be between 10% and 20% activity as determined by the prothrombin time, while still others may recommend different levels.

In undertaking anticoagulant treatment of a patient, the physician must remember the great variability in response among patients to the coumarin type drugs, and the individual variability from day to day. A pretreatment prothrombin time is obtained; then daily checks must be made until the desired therapeutic level is firmly established. Thereafter, less frequent determinations are required with no period in excess of four weeks passing without the prothrombin time being rechecked.

### Summary

The one-stage prothrombin time is a valuable test for assessing hereditary and acquired disorders of the second stage of blood clotting (conversion of prothrombin to thrombin). Its main use is in following patients taking indirect-acting anticoagulant medication. The performance of the test and analysis of some of the factors affecting the results obtained using the prothrombin time test are discussed as are some of its shortcomings.

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Richmond, Virginia*

MACK I. SHANHOLTZ, M.D.  
*State Health Commissioner of Virginia*

## Identification and Chemoprophylaxis of Tuberculous Infection\*

The Public Health Service and its Tuberculosis Control Advisory Committee recommend that a program to identify and administer prophylaxis to tuberculous infection be incorporated into the nationwide tuberculosis control program. As an initial step, the following goals are proposed for the 1967-1968 school year:

1. tuberculin testing of all school "leavers", all school "enterers" and all school employees;
2. chest x-ray examination of all those identified as infected;
3. multiple-drug *treatment* of individuals found to have clinically active *disease*;
4. isoniazid prophylaxis of all infected individuals with no evidence of active disease;
5. tuberculin testing of associates of school age reactors to identify those who may be *infected*, with follow-up x-ray to help determine need for *prophylaxis*. Any found to have active tuberculous *disease* will, of course, receive curative *treatment*.

For control of tuberculosis, the value of preventive administration of isoniazid has been definitely established by the Public Health Service trials. Prophylaxis is already recommended for contacts of active cases

and for infected persons with abnormal x-rays.

Over the ten years since the trials were started, isoniazid, taken daily for one year, has decreased the frequency of disease by 75 to 80% during the year of medication, and by at least 50% thereafter. This means that for large numbers of infected persons, isoniazid is able to nullify much of the potential risk inherent in active, and in selected inactive infections, preventing them from progressing to active disease requiring treatment. Since all infected persons are today at considerably higher risk than the uninfected in our population, the indications for chemoprophylaxis can now be expanded to include all persons known to have had a tuberculous infection, all of whom should be considered for same wherever local personnel and facilities permit.

Tuberculin testing programs in the schools are already included or are being planned as a regular part of the tuberculosis control activities of most health departments. Isoniazid administered as prophylaxis to all the infected identified is a logical extension and should be considered the prime purpose of any phase of tuberculosis control program directed *specifically* at prevention.

The ultimate objective of the Program outlined above is to create a generation of young Americans entirely free of infection as soon as possible. To achieve this objective it will be necessary to reduce new infection to a minimum through early detection and proper treatment of active cases of tuberculosis, and to prevent those now infected, or infected from now on, from ever developing communicable tuberculosis.

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\*A Statement of the U. S. Public Health Service, National Communicable Disease Center, Tuberculosis-Program, Atlanta, Georgia—June 13, 1967, as modified by the Bureau of Tuberculosis Control, Virginia State Health Department.

EDWIN S. ZOLIK  
RICHARD SOMMERS  
EDNA M. LANTZ

## **Hospital Return Rates and Prerelease Referrals**

As a consequence of the increased emphasis on returning patients to their community as soon as their psychiatric condition makes this possible, community agencies have been encouraged to develop programs which provide the services needed by patients released from mental hospitals. The need for such community programs is indicated by the more than doubling of net releases from mental hospitals between 1955 and 1965 (United States Department of Health, Education and Welfare, 1966). However, 55% of all admissions in 1965 had a history of previous hospitalization (United States Department of Health, Education and Welfare, 1966). This high rate of readmission has called into question the effectiveness of community programs and hospital prerelease planning and highlights the importance of a close and effective hospital-community liaison.

This study is concerned with an analysis of the return rates of patients to the hospital as a function of the type of referral made by the hospital at the time of release.

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ZOLIK, EDWIN S., *Chairman, Department of Psychology, DePaul University.*

SOMMERS, RICHARD, *Graduate Student, Department of Psychology, DePaul University.*

LANTZ, EDNA M., *Statistician, Department of Mental Hygiene and Hospitals.*

Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

Presented at the American Psychological Convention in Washington, D. C. on September 3, 1967. Also published in 1967 A.P.A. Convention Proceedings, Washington, D. C., p. 229-230.

This study was supported in part by Grant MH-305 from the National Institute of Mental Health, U.S. Public Health Service.

The specific hypothesis is that significantly more patients will return to the hospital who have been released without a specific referral, compared with patients referred to a community mental health service, or patients referred to other community supportive agencies, such as public welfare or family service. A second purpose is to provide base line data for future comparisons.

## **Method and Procedure**

Data were developed on all patients released by the four State hospitals in Virginia and on all patients returning to these hospitals during the 1963-1964 fiscal year. The data on these patients were analyzed by sex, by type of referral made at the time of release to the community and length of stay in the community prior to rehospitalization. The 4,376 patients who were released either by direct discharge or on trial-visit status with a discharge planned for a future date—and the 2,122 patients who were rehospitalized constituted the samples for this study.

Four major categories of referral by the hospital were employed. These were: (a) no specific referral upon release as the patient was not considered to need further treatment for the problem precipitating hospitalization; (b) referral and specific arrangements made for public or private outpatient mental health service; (c) referral to a community supportive agency other than mental health for social, economic or physical health service; and (d) placement in a nursing home or family care.

The time intervals of the number of days out of the hospital prior to returning were: 1-13 days, 14-29 days, 30-59 days, 60-89 days, 90-179 days, 180-364 days and 365



or more days. Small intervals were selected for the first part of the stay in community period as prior evidence (Zolik & Lantz, 1965) indicates this period to be of importance.

For each referral category the net release rate was computed along with the net return rate for each time interval for each sex separately. In addition, the percentage of patients returning in each release category was computed for each time interval by sex in terms of the total number of patients returning in that release category.

Chi square and critical ratios were employed to test for significant differences.

## Results and Discussion<sup>1</sup>

### *Net Release and Net Return Rates*

Within the one-year period, significantly more patients (56.4%) returned to the hospital who had been released without any referral than patients (32.8%) referred to a mental health service, or patients (26.9%) referred to a community supportive agency or patients (17.8%) placed in a nursing home or family care (critical ratios significant at .001 level).

Chi square analysis indicated a significant (.001 level) overall relation between types of release referral and specific time intervals of stay in the community. Detailed analyses indicated that a significantly greater (.001 or .01 level) percent of patients released without a specific referral returned in each of the six time intervals than patients referred for mental health service. In comparing the no referral category with the category of referral to supportive agencies, a significantly greater percent of patients in the no referral category returned only the first two weeks after release (.02 level) and in the last six month period, 180-364 days (.05 level). These results are portrayed in figures 1 and 2.

<sup>1</sup>Tables and graphs presenting the data and results are available from the Statistician, Department of Mental Hygiene and Hospitals.

### *Sex Differences Within Release Categories*

By the end of the year significantly (.001 level) more females (60.2%) than males

FIGURE 1.

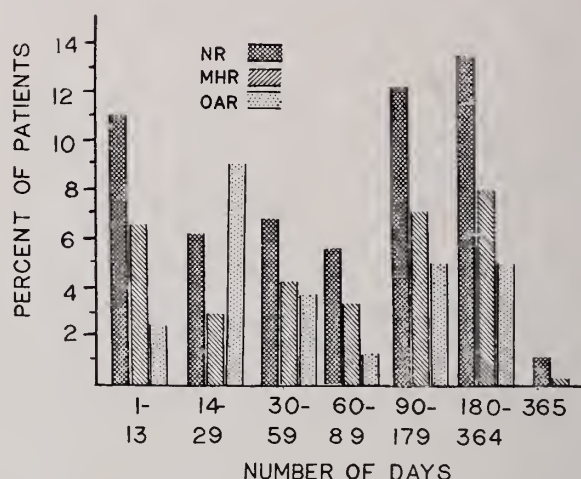


Fig. 1. The per cent of released patients by type of release from the hospital returning to the hospital within a specific number of days during the first year following release from the hospital. NR = release with no referral to a community agency; MHR = release with a referral to a mental health service; OAR = release with a referral to another agency in the community, i.e. public health, public welfare, etc.

FIGURE 2.

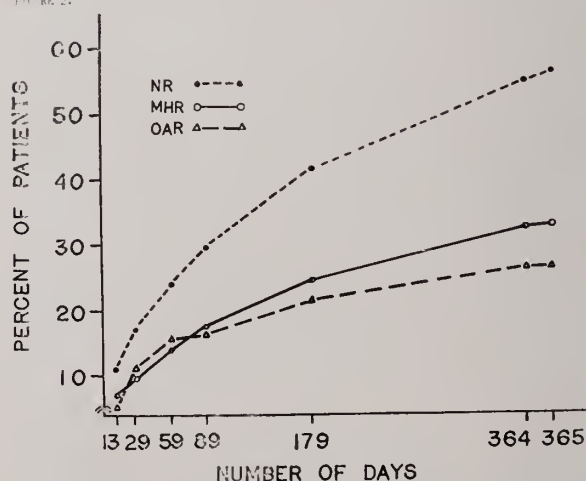


Fig. 2. The cumulative per cent of released patients by type of release from the hospital returning to the hospital within a specific number of days during the first year following release from the hospital. NR = release with no referral to a community agency; MHR = release with a referral to a mental health service; OAR = release with a referral to another agency in the community, i.e. public health, public welfare, etc.

(53.4%) had returned to the hospital in the no referral category. Significant sex differences in return rates occurred in the following time intervals: in the first two

weeks following release more (.01 level) males (12.6%) than females (9.0%) returned, whereas in the last six month period, 180-364 days, more (.001 level) females (17.2%) than males (10.5%) returned.

In the category of referral for mental health service, significantly more (.001 level) males (11.4%) than females (3.6%) returned only during the first two weeks after release.

#### *Same Sex Comparisons Between Release Categories*

The comparison of patients of the same sex indicated that significantly more (.001 level) males (53.4%) without a specific referral returned by the end of the year than males (35.8%) referred for mental health services and similarly (.001 level) between females (60.2% and 31.1%, respectively). Detailed comparisons for each of the time intervals revealed that significantly more males in the no referral category than males in the mental health service referral category returned in the following intervals: 14-29 days, 60-89 days, 90-179 days and 180-364 days. Among females, significantly more (.02 and .001 levels) females released without a referral returned in each of the time intervals than females released with a referral for mental health service.

#### *Return Rates in Relation to All Returns*

This analysis focused on determining the differences between groups and sexes in return rates in relation to the total number of patients rehospitalized within the one-year period. There was no overall significant difference in return rates between the percentages of rehospitalized males who were released without a specific referral and males who were released with a referral for mental health services. Similarly, there was no significant difference in the return rates of females in each of these two categories. Small frequencies in each time interval for patients released with a referral to suppor-

tive community agencies precluded statistical analyses by sex on this group. These results indicate that for each sex the patients that are rehospitalized return at the same rate across time intervals, regardless whether they were referred for mental health service or released without a referral.

However, when males are compared with females within the same release category, significant sex differences are obtained. In the category of release without referral significantly (.001 level) more males (23.6%) returned than females (14.1%) in the first two weeks, but in the last half of the year (180-364 days) significantly (.001 level) more females (28.3%) than males (19.6%) were rehospitalized.

In the category of release with referral for mental health services similar results were obtained. Significantly (.001 level) more males (31.8%) than females (11.6%) returned in the first two weeks and significantly (.05 level) more females (28.3%) than males (19.6%) were rehospitalized in the 180-364-day period.

### **Discussion**

The results confirm the hypothesis of the study that significantly more patients released without a referral are rehospitalized than patients referred for outpatient mental health service or to other community supportive agencies. As the treatment programs in the hospitals involved in this study are essentially chemotherapeutic and supportive, the results appear to indicate that many patients have a sufficient remission of symptoms to suggest to hospital personnel that continued treatment in the community is not indicated.

The high readmission rate in the first two weeks following release is consistent with previous research (Zolik & Lantz, 1965; Zolik, Lantz & Busiel, 1965). This was characteristic both for patients released without referral and those released with a referral for mental health service. As very many patients referred to community mental

health services are not seen within the first two weeks (indicated by other data), the initial high rate of rehospitalization indicates the crucial need for community caretakers to achieve contact with the patient in the first few days after release from the hospital. In addition, the greater net return rates of patients released without a referral indicates the feasibility of providing at least brief supportive services upon their initial return to the community. On the other hand, the lack of adequate predictors to discriminate patients who will be rehospitalized from those who will succeed (Freeman & Simmons, 1963) suggests the possibility that for the majority of cases the hospital program must be complemented by a sustained community program.

The results indicate that when return rates of rehospitalized patients are considered, regardless of the type of referral upon release from the hospital, males have a faster rate of return in the immediate posthospital period, whereas females have a higher return rate in the latter half of the posthospital year. However, for patients of the same sex there were no significant differences in return rates between the two types of release categories. A possible factor involved in the obtained sex differences is that the failure of males to quickly assume instrumental roles in providing for themselves and their family would contribute to faster rehospitalization whereas females might be al-

lowed more time to assume household and caretaking roles and that minimal activity on the part of females is tolerated to a greater extent than on the part of released male patients. This interpretation suggests differential sex-related stress levels to which patients are subjected upon release from the hospital.

Although patients will be rehospitalized regardless of type of community service they obtain, the results offer strong support for optimism about the efficacy of community service programs which are coordinated with state hospitals. The results indicate the need for research directed at discriminating between patients who succeed and those who are rehospitalized, and research on factors determining various referrals or the lack of referral.

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### Let's Reminisce!

*Virginia Medical Monthly*, September 1878.

Hiccough Cured by Compression—A case is cited from a French journal, in which Hiccough which had been "incessant for fifty days", was cured in five minutes by powerful compression over the epigastrium. All other conceivable means had failed. (*Pacific Medical and Surgical Journal*, August 1878.)



## Correspondence . . . .

### **Thyroid Carcinoma after Radiation Therapy**

To the Editor:

A recent article in the JAMA, by Albright, E. A., and Allday, R. W., Thyroid Carcinoma After Radiation Therapy for Adolescent Acne Vulgaris, JAMA 199: 4, pp. 280-281, points up the importance of rational selection of therapy vis a vis A Rational Approach to the Management of Acne Vulgaris, Trice, E. R., Virginia M. Monthly 94: 6, pp. 338-341.

I regret that Dr. Trice does not at least mention what many physicians consider a real hazard when x-radiation is selected as the treatment for acne vulgaris in adolescence. This is, of course, to emphasize that either adequate shielding to the thyroid gland be employed, or another form of therapy be selected. Drs. Albright and Allday go as far as to suggest in their article that "radiation therapy for acne and other benign diseases of the head and neck should be abandoned in the adolescent patient."

While "hard" scientific evidence is not at hand to prove latent harmful effects from low dose radiation in humans, more and more epidemiological studies in humans, especially infants, children and adolescents, are pointing towards the "no threshold" theory for radiation effects. In animals we are probably much closer to a proof of the "no threshold" theory.

Several letters have been written to the Editor of the JAMA in response to the article by Albright and Allday belittling the radiation hazard. It is my contention that these physicians are not well informed and are assuming an ostrich-like attitude towards this potential hazard.

As Dr. Trice has pointed out drawbacks of some forms of therapy in acne vulgaris, I believe the concept of increased sensitivity to radiation damage in this age group should

be brought to the attention of the readers so that each will be able to make a sound decision regarding a choice of therapy for their adolescent patients who have acne vulgaris.

Very truly yours,  
LIONEL M. LIEBERMAN, M.D.

3515 North Glebe Road  
Arlington, Virginia 22007  
July 11, 1967

### **Blue Shield Contracts**

To the Editor:

At a special meeting of the Richmond Academy of Medicine, held on July 13, 1967, the merits and possible consequences of certain new Blue Shield Contracts were discussed. At this meeting a resolution was adopted which prompted the Board of Directors of Blue Shield to suspend any further sale of certain new contracts (in particular the 7500-10).

Since Blue Cross-Blue Shield is selling health insurance in the majority of the counties of Virginia, the resolution by the Richmond Academy of Medicine may be of great interest to all physicians in Virginia. I am therefore incorporating a copy for publication in the Virginia Medical Monthly.

This resolution points out clearly the problems arising out of Blue Shield's strongly intended and possibly necessary deviations from its original stature. Should Blue Shield continue such a course, physicians will undoubtedly have to reassess their position within the context of Blue Shield. The extent and nature of such reassessment will hinge entirely on how well Blue Cross-Blue Shield will be able to maintain or favorably readjust its old basis and principle of physician participation, in spite of its becoming

one of the major factors in the health insurance business.

The resolution reads as follows:

WHEREAS Blue Shield was originally created to provide insurance protection for specified low-income groups of the population, and

WHEREAS physician participation in Blue Shield has always been based on help to those not able to meet the full cost of private medical care, and

WHEREAS the 7500-10 Plan proposed by Blue Shield is in violation of the original intent of Blue Shield,

WHEREAS the 7500-10 Plan promotes third party determination of physicians' fees without recourse, and

WHEREAS the 7500-10 Plan is destructive of the physician-patient relationship.

BE IT RESOLVED that the Richmond Acad-

emy of Medicine does hereby declare its opposition to the present Blue Shield 7500-10 Plan:

BE IT FURTHER RESOLVED that a copy of this resolution be spread on the minutes of the Richmond Academy of Medicine, and a copy be sent to The Medical Society of Virginia, and that this resolution be presented to the annual meeting of Blue Shield on July 14, 1967, and to such regulatory bodies as may be deemed expedient by the Board of Trustees of the Richmond Academy of Medicine:

BE IT FURTHER RESOLVED that the Richmond Academy of Medicine is not in favor of discrimination between participating and non-participating physicians' payments.

J. HUBERT, M.D.

8322 West Weyburn Avenue  
Richmond, Virginia 23225

MONTHLY REPORT OF BUREAU OF COMMUNICABLE  
DISEASE CONTROL

	July 1967	July 1966	Jan.- July 1967	Jan.- July 1966
Brucellosis -----	2	3	29	11
Diphtheria -----	0	0	0	0
Hepatitis -----	70	35	487	353
Meningitis (Aseptic) -----	4	1	8	4
Meningococcal Infections ---	8	1	36	53
Poliomyelitis -----	0	0	0	0
Rocky Mt. Spotted Fever ----	9	8	18	17
Rubella -----	136	87	622	891
Rubeola -----	191	290	2081	2069
Streptococcal Sore Throat ---	875	614	9789	8480
(including Scarlet Fever)				
Tularemia -----	0	0	0	0
Typhoid Fever -----	2	0	4	7
Rabies (in animals) -----	19	16	158	190
Venereal Diseases				
Syphilis -----	181	168	1261	1123
Gonorrhea -----	833	733	5254	4550
Other -----	1	4	12	16

# PRELIMINARY PROGRAM

120th MEETING

The Medical Society of Virginia

Marriott Twin Bridges Motor Hotel  
Arlington, Virginia  
October 19-22, 1967





# PRELIMINARY PROGRAM

120TH MEETING

## THE MEDICAL SOCIETY OF VIRGINIA

MARRIOTT TWIN BRIDGES MOTOR HOTEL  
ARLINGTON, VIRGINIA  
OCTOBER 19-22, 1967

THURSDAY, OCTOBER 19  
10:00 A.M.

COUNCIL  
South Room

2:00 P.M.  
HOUSE OF DELEGATES  
Chesapeake Room

FRIDAY MORNING, OCTOBER 20  
9:00 A.M.

Session "A"—Chesapeake Room

Welcome and Preliminary Announcements—W.  
Leonard Weyl, M.D., Chairman, Local Committee  
on Arrangements  
Memorial Service

### Scientific Program

Hugh G. Stokes, M.D., Williamsburg, Presiding

9:05 A.M.—The American College of Physicians,  
Virginia Section, will present selected topics on  
internal medicine with case presentations.

1. *Guest Speaker*—Sol Katz, M.D., Associate  
Professor of Medicine, Georgetown University,  
and Chief of Medicine, Veterans' Administra-  
tion Hospital, Washington, D. C.—X-RAY  
EXAMINATION OF THE CHEST.

Although x-ray examination of the chest is often  
helpful in the diagnosis of pulmonary disease,  
similar x-ray patterns are seen in diseases of differ-  
ent etiology. An intelligent interpretation of chest  
x-rays is based on a correlation of the x-ray find-  
ings with a history, physical examination, and labo-  
ratory data. With such an approach, the limita-  
tions of chest x-ray interpretations are minimized.

2. ELECTROCARDIOGRAPHY—Julian R. Beckwith,  
M.D., Charlottesville

Electrocardiograms with protocols of patients will  
be presented. These will include myocardial in-  
farction, congenital heart disease and an arrhyth-  
mia. Audience participation will be encouraged.

10:30—INTERMISSION TO VISIT EXHIBITS

### SYMPOSIUM ON MANAGEMENT OF COLORECTAL CANCER

J. Shelton Horsley, III, M.D., Charlottesville, Pre-  
siding

11:00 A.M.—THERAPEUTIC SIGNIFICANCE OF  
POLYPS OF THE COLON AND RECTUM—John T.  
Farrar, M.D., Richmond

11:10 A.M.—Questions

11:20 A.M.—SURGICAL MANAGEMENT OF COLOR-  
ECTAL CANCER—J. Shelton Horsley, III, M.D.,  
Charlottesville

11:30 A.M.—Questions

11:40 A.M.—RATIONALE AND INDICATIONS FOR  
PREOPERATIVE RADIOTHERAPY—Walter Law-  
rence, Jr., M.D., Richmond

11:50 A.M.—Questions

12:00 Noon—WHAT IS THE ROLE OF CHEMO-  
THERAPY?—Milton H. Donaldson, M.D., Char-  
lottesville

12:10 P.M.—Questions

12:20 P.M.—General Discussion

9:00 A.M.

### Session "B"—Persian Room #3

Welcome and Preliminary Announcements—James  
C. Respass, M.D., Chairman, Program Committee

### Scientific Program

James C. Respass, M.D., Charlottesville, Presiding

9:05 A.M.—This portion of the program has been  
arranged by the Virginia Society of Plastic and  
Reconstructive Surgery—

1. RECONSTRUCTIVE PROCEDURES IN HEAD AND  
NECK CANCER SURGERY—Claude C. Coleman,  
Jr., M.D., Richmond
2. RECENT ADVANCES IN THE DIAGNOSIS, TREAT-  
MENT AND MANAGEMENT OF MAXILLOFACIAL  
TRAUMA—George A. Whipple, M.D., Fairfax

3. DIAGNOSTIC PRINCIPLES IN THE EVALUATION OF HAND INJURIES—Garry S. Brody, M.D., Arlington
4. HAND SURGERY IN THE CHILD—Jerome E. Adamson, M.D., Norfolk
5. ONE-STAGE HYPOSPADIAS REPAIR—Charles E. Horton, M.D., Norfolk
6. COSMETIC SURGICAL RECONSTRUCTION OF FACIAL DEFORMITIES—John Alexander, M.D., Falls Church
7. RECENT ADVANCES IN COSMETIC BREAST RECONSTRUCTION—Albert F. Borges, M.D., Falls Church

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10:30 A.M.—INTERMISSION TO VISIT EXHIBITS

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Program Arranged by Virginia Orthopaedic Society

- 11:00 A.M.—CURRENT CONCEPTS OF SURGERY IN RHEUMATOID ARTHRITIS—Leo B. VanHerpe, M.D. and Robert P. Nirschl, M.D., Arlington
- 11:20 A.M.—FRACTURES OF THE FEMORAL SHAFT—Ernest B. Carpenter, M.D., Richmond
- 11:40 A.M.—TREATMENT OF LATERAL LIGAMEN-  
TOUS INJURIES OF THE ANKLE—Joseph L. Platt,  
M.D. and George A. Ferre, M.D., Lynchburg
- 12:10 P.M.—HIP PROBLEMS IN PARAPLEGIC PA-  
TIENTS—Robert H. Mauck, M.D., McGuire Vet-  
erans Hospital, Richmond

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**FRIDAY AFTERNOON, OCTOBER 20**

See special section on luncheons, committee meetings and special events.

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**Scientific Program**

2:30 P.M.

**Session "A"—Chesapeake Room**

James M. Moss, M.D., Alexandria, Presiding

2:30 P.M.—Program arranged by Virginia Society of Internal Medicine on the Report of the Citizens Commission on Graduate Education (Millis Report).

*Guest Speaker*—James J. Feffer, M.D., president, American Society of Internal Medicine, Washington, D. C.

*Guest Speaker*—Richard M. Magraw, M.D., Professor of Medicine, University of Minnesota School of Medicine, Minneapolis.

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2:30 P.M.

**Session "B"—Persian Room #3**

Fitzhugh Mayo, M.D., Virginia Beach, presiding

2:30 P.M.—Symposium on LABORATORY PROCEDURES IN THE PHYSICIAN'S OFFICE—arranged by Virginia Society for Pathology—William D. Dolan, M.D., Arlington, Moderator. Participants will be: Richard E. Palmer, M.D., Alexandria, C. Barrie Cook, M.D., Fairfax, William F. Enos, M.D., Arlington, George J. Carroll, M.D., Suffolk, and George P. Vennart, M.D., Richmond.

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3:15 P.M.

Reference Committee #1—South Room

Reference Committee #2—Lee Room

Reference Committee #3—Arlington Room

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**SATURDAY MORNING, OCTOBER 21**

8:30 A.M.

**Session "A"—Persian Room #1**

William D. Dolan, M.D., Arlington, Presiding

**Scientific Program**

The following session has been arranged by the American College of Surgeons, Virginia Chapter, in cooperation with the Virginia Academy of General Practice.

8:30 A.M.—*Guest Speaker*—John M. Kinney, M.D., Professor of Surgery, College of Physicians and Surgeons of Columbia University, New York—THE METABOLIC ASPECTS OF SHOCK.

9:30 A.M.—THE PATIENT WITH MULTIPLE INJURIES—Panel to be Moderated by Leslie M. Rudolf, M.D., Charlottesville

Case histories of patients exhibiting multiple system injuries will be presented and will be discussed utilizing the question and answer method. Audience participation will be encouraged.

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10:30 A.M.—INTERMISSION TO VISIT EXHIBITS

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The following program has been arranged by the Neuropsychiatric Society of Virginia in Cooperation with the Virginia Academy of General Practice:

11:00 A.M.—*Guest Speaker*—Murray Bowen, M.D., Associate Clinical Professor in Psychiatry, Georgetown University Medical Center, Washington, D. C.—IMPLICATIONS OF FAMILY PSYCHIATRY FOR MEDICAL PRACTICE

Discussion of characteristics of the family emotional system that contribute to states of illness and health and that can facilitate or impede recovery from any acute or chronic illness.



11:30 A.M.—THE SELECTION AND PREPARATION OF PATIENTS FOR PSYCHIATRIC REFERRAL—J. McDermott Barnes, M.D., Richmond

This paper discusses a number of ways in which the referring physician can, for better or for worse, affect the course of psychiatric treatment. After citing a variety of common errors, the author makes recommendations as to how best insure that the referral is appropriate and successful.

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9:00 A.M.

**Session "B"—Persian Room #2**

Francis H. McGovern, M.D., Danville, Presiding

9:00 A.M.—This portion of the program will be presented by the Virginia Diabetes Association

10:00 A.M.—This portion of the program will be sponsored by the Virginia Obstetrical and Gynecological Society

1. BREECH PRESENTATION—Leo J. Dunn, M.D., Richmond

2. INDUCTION OF OVULATION—John A. Board, M.D., Richmond

3. RECENT DEVELOPMENTS IN FETO-MATERNAL MANAGEMENT—Guy M. Harbert, Jr., M.D., Charlottesville

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11:00 A.M.—INTERMISSION TO VISIT EXHIBITS

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The following program has been arranged by the Virginia Society of Ophthalmology and Otolaryngology:

11:30 A.M.—LIGHT COAGULATION REVISITED—DuPont Guerrey, III, M.D., Richmond

12:00 Noon—HEARING AIDS AND HEARING AID DEALERS—Cary N. Moon, Jr., M.D., Charlottesville

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**SATURDAY AFTERNOON, OCTOBER 21**

2:00 P.M.

**Session "A"—Persian Room #1**

Hugh G. Stokes, M.D., Williamsburg, Presiding

## SPECIAL EVENTS

**THURSDAY, OCTOBER 19**

Council, The Medical Society of Virginia

Business Meeting—South Room—10:00 A.M.

Luncheon—Lee Room—12:00 Noon

House of Delegates, The Medical Society of Virginia  
Chesapeake Room—2:00 P.M.

International College of Surgeons, Virginia State  
Surgical Division

Scientific & Business Session—South Room—

3:00 P.M.

This portion of the program has been arranged by the Virginia Industrial Medical Association:

2:00 P.M.—*Guest Speaker*—Thomas P. Harwood, Jr., Commissioner, Industrial Commission of Virginia, Richmond—THE PHYSICIAN AND THE VIRGINIA WORKMEN'S COMPENSATION ACT

Sections of the Act of special interest to the physician will be discussed: selection of physician, referrals, fees, reports, accidental injury and occupational disease, notice, causal relation, disability ratings, etc.

2:30 P.M.—*Guest Speaker*—Barry Commoner, Ph.D., LL.D., Chairman, Department of Botany, Washington University, St. Louis, Missouri—POLLUTION: A CRISIS IN THE BIOLOGY OF THE ENVIRONMENT

Environmental pollution is not only a nuisance and a cause of disease, but also a warning of the potential breakdown of the capability of the environment to support society.

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2:00 P.M.

**Session "B"—Persian Room #2**

James C. Respass, M.D., Charlottesville, Presiding

THE MANAGEMENT OF TETANUS—A panel arranged by the Virginia Society of Anesthesiology.

A case of human tetanus will be presented, stressing its management and the complications of the disease.

2:00 P.M.—William R. Sandusky, M.D., Charlottesville—THE PROPHYLAXIS OF TETANUS

2:30 P.M.—*Guest Speaker*—M. T. Jenkins, M.D., McDermott Professor and Chairman, Department of Anesthesiology, University of Texas Southwestern Medical School, Parkland Memorial Hospital, Dallas, Texas—THE MANAGEMENT OF TETANUS

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3:30 P.M.

**HOUSE OF DELEGATES**

Chesapeake Rooms #2 and #3

Social Hour—Lee Room—5:30 P.M.

VaMPAC

Cocktails—Persian Room—6:30 P.M.

Banquet—Persian Room—7:30 P.M.

**FRIDAY, OCTOBER 20**

Virginia Academy of General Practice Breakfast—  
Membership and Credentials Committee—Persian  
Room #2—7:00 A.M.

## VaMPAC

Breakfast—Board of Directors—Sky Room—  
7:30 A.M.

American Association of Public Health Physicians,  
Virginia Chapter

Breakfast—South Room—7:30 A.M.

Virginia Academy of General Practice Luncheon—  
Editorial Board—Persian Room #2—12:45 P.M.

Virginia Orthopaedic Society

Luncheon—South Room—1:00 P.M.

Virginia Flying Physicians Association

Luncheon—Sky Room—1:00 P.M.

Virginia Society of Plastic and Reconstructive  
Surgery

Luncheon—Potomac Room—1:00 P.M.

American College of Physicians, Virginia Section

Luncheon—Lee Room—1:00 P.M.

Reference Committee #1

South Room—3:15 P.M.

Reference Committee #2

Lee Room—3:15 P.M.

Reference Committee #3

Arlington Room—3:15 P.M.

Medical College of Virginia Medical Alumni  
Association

Cocktail Party—Chesapeake Room—6:30 P.M.

Banquet—Chesapeake Room—7:30 P.M.

University of Virginia Medical Alumni Association

Cocktail Party—Persian Room—6:30 P.M.

Banquet—Persian Room—7:30 P.M.

George Washington University Medical Alumni  
Association

Cocktail Party—Lee Room—6:30 P.M.

Banquet—Arlington-Potomac Rooms—7:30 P.M.

## SATURDAY, OCTOBER 21

Virginia Academy of General Practice

Breakfast—Board Meeting—Potomac Room—  
7:00 A.M.

Southern Medical Association

Breakfast—Chesapeake Room #1—7:30 A.M.

Virginia Industrial Medical Association

Breakfast—Lee Room—7:30 A.M.

Virginia Society of Internal Medicine

Breakfast—Sirloin & Saddle—7:30 A.M.

Virginia Surgical Society

Luncheon—South Room—1:00 P.M.

Virginia Academy of General Practice

Annual Luncheon—Chesapeake Room #1—1:00  
P.M.

Virginia Neurosurgical Society

Luncheon—Potomac Room—1:00 P.M.

Virginia Radiological Society

Luncheon—Sky Room—1:00 P.M.

Neuropsychiatric Society of Virginia

Luncheon—Arlington Room—1:00 P.M.

Virginia Obstetrical and Gynecological Society

Luncheon—Persian Room—1:00 P.M.

House of Delegates, The Medical Society of Virginia

Chesapeake Rooms #2 and #3—3:30 P.M.

The Medical Society of Virginia

Cocktail Party—Chesapeake Room—6:30 P.M.

Banquet—Persian Room—7:30 P.M.

## SUNDAY, OCTOBER 22

Virginia Society of Anesthesiology

Meeting—Chesapeake Room #2—9:00 A.M.

Luncheon—Chesapeake Room #1—12:30 P.M.

## RELIGIOUS OBSERVANCE

We invite you to attend the church of your  
choice. Area churches will be listed on a special  
directory in the main lobby.

VaMPAC

Special Film Presentation—Arlington Room—  
9:30 A.M.

## SCIENTIFIC EXHIBITS

HOME HEALTH SERVICES—R. W. Jessee, M.D., Virginia  
State Department of Health, Richmond

*Depicts the role of the physician, the public health  
nurse and the Local Health Department providing  
therapeutic services prescribed by the physician in  
a Home Health Care Program.*

FAMILY PLANNING—J. W. Jessee, M.D., Virginia State  
Department of Health, Richmond

*Depicts family planning services provided by local*

*health department clinics working in a cooperative  
program with local physicians.*

REPAIR OF EAR DRUM PERFORATIONS—Charles S. Sale,  
M.D., Norfolk

MINIMIZING THE MENOPAUSE—F. P. Rhoades, M.D., De-  
troit, Michigan

*There is a growing realization that it is both  
morally and medically justifiable to make what has*

become almost half of a woman's life comfortable, healthy and productive. The rationale of regarding the menopause as a deficiency disease is presented. Adequate replacement therapy with estrogen and progesterone will minimize its multiple disorders—such as: Insomnia, depression, arthralgia, fatigability, incontinence, sweating, emotional instability, senile vaginitis, headache and hot flashes. A compilation of results achieved on patients in private practice in reducing the severity of these most frequent symptoms is graphically presented.

**TARGET SYMPTOMS: THE KEY TO DIFFERENTIAL DIAGNOSIS AND TREATMENT OF EMOTIONAL ILLNESS—Wilfred Dorfman, M.D., Brooklyn, New York**

Emotionally ill patients may complain of organic symptoms which often point to a specific organic diagnosis.

Specific or nonspecific therapy may fail and the emotional symptoms of depression, which may be associated with anxiety, persist.

The identification of the key target symptom and associated cluster of symptoms is essential to the selection of proper therapy and adequate management of the patients.

**RESTORATION OF FUNCTION TO THE INJURED HAND—Claude C. Coleman, Jr., M.D., Richmond**

The plan of this exhibit is to demonstrate various injuries of the hand and the methods of management. Emphasis is placed on the proper timing of reconstruction as well as the sequence of such repairs. The main theme is early soft tissue coverage followed by underlaid repair of nerves, bones and tendons. The cases presented include avulsions, high voltage electric burns, gunshot injuries and thermal burns. Concise legends describe injury, operative procedure and result.

**SOUTHERN MEDICAL ASSOCIATION—Mrs. Martha D. Hooks, Birmingham, Alabama**

An educational exhibit of the Southern Medical Association.

**ADULT SEIZURE CONTROL AND REHABILITATION CLINIC—Cary Suter, M.D. and Hooshang Hooshmand, M.D., Richmond**

A clinic for the diagnosis, treatment and rehabilitation of adult patients with epilepsy has been established at the Medical College of Virginia in cooperation with the Virginia State Health Department. Information concerning the services offered by this clinic is presented as an exhibit. Literature concerning classification, diagnosis and treatment of epilepsy will be available. TV tapes showing the electroencephalogram pattern in epilepsy will be shown.

**GONORRHEA—OUT OF CONTROL?—W. R. Southward, Jr., M.D., Virginia State Department of Health, Richmond**

Gonorrhea has been regarded as a disease easy to diagnose and treat. This exhibit points out the fallacy of this reasoning. The incidence of gonorrhea has increased markedly in the last few years.

**METHOD OF MANAGEMENT OF AORTIC ANEURYSMS INVOLVING RENAL AND ILIAC ARTERIES—John J. Nolan, M.D., Arlington**

Although many aneurysms of the abdominal aorta are confined to the infra-renal aorta, several have been encountered which extend into the aortic segment giving rise to the renal arteries, and into the common iliac arteries as far as the iliac bifurcations.

Excision of the aneurysm, replacement with a bifurcation prosthesis with a cuff to act as external support for the renal artery segment and iliac segments, simplifies surgical management of these extensive aneurysms. Good long-term results are presented.

**CANCER OF THE COLON AND RECTUM—American Cancer Society, Virginia Division, Richmond**

This exhibit shows the incidence of this particular site of cancer and stresses the importance of early diagnosis and proper treatment in saving lives from this form of cancer. The exhibit points out that the key to early diagnosis is use of the proctoscopic examination as part of the health checkup.

**PHENYLKETONURIA PROGRAM IN VIRGINIA—James J. Dunne, M.D., and Dorothy L. LeGrand, M.S., Bureau of Maternal and Child Health, State Department of Health, Richmond**

The State Health Department PKU Program—map showing location of cases, number of cases, laboratories for testing, materials and services available.

**DEPLETION OF STORAGE IRON IN THE FEMALE, ITS CAUSES, SIGNIFICANCE AND TREATMENT—Wilk O. West, M.D., Lexington, Kentucky**

This exhibit on iron deficiency in 82 females presents the significance of restoring depleted storage iron in the female and the importance of keeping a positive iron balance. It deals with causes of deficiency, types of patients, etiology of iron deficiency, and therapeutic response to the administration of Ferrous Fumarate concurrently with ascorbic acid.

**COMMON SENSE APPROACH TO FOOT PROBLEMS IN CHILDREN—Rodney L. Belcher, M.D., Arlington.**

Series of posters and photographs depicting commonly encountered foot problems seen in office practice of children's orthopedics.

**MATERNITY AND INFANT CARE PROJECT—S. A. Graham, M.D., City of Richmond, Virginia, Department of Health.**

Maternal and Infant Care Project of the Richmond Health Department including enumeration of problem and plan of attack to effect solution.



## TECHNICAL EXHIBITS

Technical Exhibits will be housed in The Commonwealth Room. The following, with descriptive write-ups, have been booked to date.

Booth No. 1  
**BRISTOL LABORATORIES**  
Syracuse, New York

Booth No. 2  
**SYNTEX LABORATORIES, INCORPORATED**  
Palo Alto, California

**SYNALAR®** (fluocinolone acetonide), the topical corticosteroid designed to meet specific dermatologic needs will be featured at Booth No. 2. **SYNALAR** has set a new standard of success in the treatment of a wide range of inflammatory dermatoses.

**NORINYL®** (norethindrone 2.0 with mestranol 0.1 mg) Tablets, an original steroid, will also be featured. **NORINYL** provides multiple contraceptive action that has produced a record of 100% effectiveness.

A warm welcome is extended to all physicians attending this meeting to visit our booth and discuss the latest developments from **SYNTEX** research.

Booth No. 3  
**PEOPLES DRUG STORES, INCORPORATED**  
Washington, D. C.

John R. McHugh, Director of Professional Services, will be glad to greet you and discuss with you the many professional services we have to offer the members of the medical profession.

Booth No. 4  
**R. J. REYNOLDS TOBACCO COMPANY**  
Winston-Salem, North Carolina

Welcome to the R. J. Reynolds Tobacco Company exhibit! You are cordially invited to receive a cigarette case (monogrammed with your initials) containing your choice of **CAMEL**, **CAMEL** Filter, **WINSTON** Filter, **SALEM** Filter, **TEMPO** Filter, or **CAVALIER** King Size Cigarettes.

Booth No. 5  
**WILLIAM P. POYTHRESS & COMPANY, INC.**  
Richmond, Virginia

The Poythress exhibit will feature Trocinate, a unique, direct-acting (musculotropic) antispasmodic drug, and the Mudrane combinations, established Poythress products for relief of bronchial asthma. Solfoton, Solfo-Serpine, Panalgesic, and Synirin will also be featured.

Your requests for literature and professional trial quantities are cordially invited.

Booth No. 6  
**CIBA PHARMACEUTICAL COMPANY**  
Summit, New Jersey

CIBA Professional Service Representatives will be pleased to discuss Ser-Ap-Es.

Booth No. 7  
**ARNAR-STONE LABORATORIES, INCORPORATED**  
Mount Prospect, Illinois

**SOPOR**—Non-barbiturate hypnotic sedative for gentle

untroubled sleep. Particularly useful with geriatric patients.

**AMERICAINE TOPICAL ANESTHETIC**—20% dissolved benzocaine in a water-soluble base—ointment, suppositories and aerosol forms.

**BELBARB**—Anticholinergic, anti-spasmodic, sedative. Contains belladonna alkaloids and phenobarbital for smooth muscle relaxation and reduction of anxiety and tension.

Booth No. 8  
**RETIREMENT, INCORPORATED**  
Washington, D. C.

Information will be available regarding the Keogh Act and a new group retirement plan available to members of The Medical Society of Virginia in private practice.

Booth No. 10  
**COPY-VAN COMPANY**  
Richmond, Virginia

Booth No. 11  
**HERALD PHARMACAL, INCORPORATED**  
Bedford, Virginia

You are cordially invited to visit the Herald Pharmacal booth and inspect our unique dermatological products made in Virginia by Virginians.

Booth No. 12  
**E. R. SQUIBB & SONS**  
New York, New York

E. R. Squibb & Sons has long been a leader in development of new therapeutic agents for prevention and treatment of disease. The results of our diligent research are available to the medical profession in new products or improvements in products already marketed.

We will be pleased to present up-to-date information on these advances for your consideration.

Booth No. 13  
**THE COCA-COLA COMPANY**  
New York, New York

Ice cold Coca-Cola served through the courtesy and cooperation of the Washington Coca-Cola Bottling Company, Inc., and The Coca-Cola Company.

Booth No. 14  
**ELI LILLY AND COMPANY**  
Indianapolis, Indiana

You are cordially invited to visit the Lilly exhibit. Our sales representatives in attendance welcome your questions about Lilly products. You may be particularly interested in discussing **V-CILLIN K®** Potassium Phenoxymethyl Penicillin.

Booth No. 15  
**COMMERCIAL INSURANCE COMPANY**  
Richmond, Virginia

The Commercial Insurance Company underwrites the basic disability income program sponsored by The Medical Society of Virginia for members and their employees. This program has been in effect since 1955 and offers a wide choice of plans, so that interested members may

obtain the coverage best suited to their personal needs. Descriptive information will be available.

Booth No. 16

FIRST COLONY LIFE INSURANCE COMPANY  
Lynchburg, Virginia

First Colony Life Insurance Company and affiliated companies will present a new program of insurance designed especially from a medical and actuarial standpoint for persons with diabetes. Statistical and medical information will be available.

The booth will be staffed with technical personnel to explain details of the program to interested physicians.

Booth No. 19

THE UPJOHN COMPANY  
Kalamazoo, Michigan

Professional representatives of The Upjohn Company are eager to contribute to the success of your meeting. We are here to discuss with you products of Upjohn research that are designed to assist you in the practice of your profession. We solicit your inquiries and comments.

Booth No. 20

MEAD JOHNSON LABORATORIES

The Mead Johnson Laboratories' exhibit has been arranged to give you the optimum in quick service and product information. To make your visit productive, specially trained representatives will be on duty to tell you about their products.

Booth No. 21

ENCYCLOPAEDIA BRITANNICA  
Chicago, Illinois

Encyclopaedia Britannica welcomes all delegates to The Medical Society of Virginia annual meeting and invites them to examine the new edition of Britannica.

Official delegates may now purchase this magnificent set at an offer only available at our convention exhibits. Visit Britannica's Booth for free literature.

Booth No. 22

THE STUART COMPANY  
Pasadena, California

A cordial invitation is extended to all members and guests attending this meeting to visit the Stuart Company booth. Specially trained representatives will be in attendance to answer your questions on new products, developed in our modern laboratories, which have particular interest for the medical profession. Products featured are DIALOSE, DIALOSE PLUS, FERANCEE, MULVIDREN-F, MULVIDREN JUNIOR, MYLANTA, MYLICON, STUART PRENATAL.

Booth No. 23

U. S. VITAMIN & PHARMACEUTICAL CORP.  
New York, New York

The USV Pharmaceutical Corporation cordially invites you to visit their exhibit where NITROSPAN, DBI-TD, and ARLIDIN will be on display.

Professional sales representatives will be in attendance to welcome you and to answer any inquiries.

Booth No. 24

WYETH LABORATORIES  
Philadelphia, Pennsylvania

Wyeth will feature . . .

OXAINE® M (oxethazaine in alumina gel with magnesium hydroxide) Wyeth, Suspension.

PEN VEE® K (Potassium phenoxymethyl penicillin) Wyeth.

Full information is available at booth #24.

Booth No. 25

A. H. ROBINS COMPANY  
Richmond, Virginia

You are cordially invited to visit the Robins display and meet our representatives who will welcome the opportunity to discuss products of interest with you.

Booth No. 26

G. D. SEARLE & COMPANY  
Chicago, Illinois

You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle Products of Research.

Featured will be Ovulen for ovulation control and menstrual disturbances, and Flagyl, a potent, new trichomonocidal agent for trichomonal vaginitis, cervicitis, urethritis and prostatitis.

Booth No. 27

SCHERING CORPORATION  
Bloomfield, New Jersey

Schering Corporation invites you to visit their exhibit where their representatives will be available to discuss with you any questions you may have on GARAMYCIN®, CELESTONE®, SOLUSPAN®, TINACTIN®, AFRIN®, ETRAFON®, or any other Schering product.

Booth No. 28

APACHE CORPORATION  
Minneapolis, Minnesota

Apache's function is to organize, offer and manage oil and gas exploration programs for individuals whose circumstances create a need for tax savings and deferred income.

Booth No. 35

MALLINCKRODT PHARMACEUTICALS  
St. Louis, Missouri

COVANAMINE®—Decongestant which provides symptomatic relief of colds, rhinitis, sinusitis, nasal allergies, hay fever and post-nasal drip.

PYRALDINE®—for relief of cough and congestion.

LUFYLLIN™ (brand of dyphylline)—Especially suited for management of the chronic pulmonary patient (long-term) with asthma, bronchitis, emphysema, and related disorders.

LUFTODIL®—Patients whose condition is complicated by excessive mucous accumulations will probably benefit most from Luftodil which provides an excellent glyceryl guaicolate in addition to bronchodilation activity.

BARBIDONNA®—Phenobarbital and natural belladonna alkaloids for sedation and spasmolysis.

Booth No. 36

**SMITH, MILLER & PATCH, INCORPORATED**  
New York, New York

Smith, Miller & Patch will appreciate the opportunity to discuss with you the latest clinical reports concerning LIPOFLAVONOID in vertigo associated with Meniere's disease and in dizziness in the older age group; VI-TRON-C, KONDREMUL and LIPOTRIAD; and ophthalmic products for conditions frequently encountered in general practice, including VASOCON-A.

Booth No. 37

**WINTHROP LABORATORIES**  
New York, New York

You are cordially invited to visit Winthrop's booth where the following products will be displayed:

WinGel—antacid liquid and tablets (hexitol-stabilized aluminum and magnesium hydroxides). Neutralizes 300 times its weight in gastric acid for fast and prolonged relief.

Isuprel (brand of isoproterenol) Mistometer.  
NegGram (brand of nalidixic acid).

Booth No. 38

**ROCHE LABORATORIES**  
Nutley, New Jersey

Continuing Roche research has produced outstanding contributions to medicine since 1909. The personnel at the exhibit welcome you comments, questions or suggestions about our products and services.

Booth No. 39

**SMITH KLINE & FRENCH LABORATORIES**  
Philadelphia, Pennsylvania

Representatives will be on hand to answer your specific questions and provide information on their products and services.

Booths No. 40 and 41

**RICHMOND SURGICAL SUPPLY COMPANY**  
Richmond, Virginia

A comprehensive display of medical, surgical and professional equipment, instruments and supplies.

Booth No. 42

**BURROUGHS WELLCOME & COMPANY**  
(U.S.A.) INCORPORATED  
Tuckahoe, New York

Of particular interest at this meeting is "Zyloprim" brand Allopurinol which represents a totally new concept for the management of gout, uric acid nephropathy and calculi, and hyperuricemia due to neoplastic disease and/or its intensive treatment.

"Zyloprim" was first synthesized in the Wellcome Research Laboratories in Tuckahoe, New York, and is the first drug to be marketed which reduces the formation of uric acid at its source.

Booth No. 43

**W. B. SAUNDERS COMPANY**  
Philadelphia, Pennsylvania

Saunders will have on display a complete line of their medical books, including many new titles and new editions such as—Beeson and McDermott: Textbook of Medicine;

Conn: 1967 Current Therapy; Kendig: Diseases of the Respiratory Tract in Children; Sheldon et al: Allergy; and Frieboes-Schonfeld: Dermatology.

Booth No. 44

**AYERST LABORATORIES**  
New York, New York

Booth No. 45

**ORTHO PHARMACEUTICAL CORPORATION**  
Raritan, New Jersey

Welcome to Booth No. 45 where ORTHO is proud to present the three latest products of ORTHO Research Foundation, ORTHO-NOVUM™ 1 mg, 2 mg Tablets and ORTHO-NOVUM SQ™ Tablets, plus DELFENT™ Vaginal Cream and Foam.

Also on display will be our well-known products for the treatment of various forms of vaginitis.

Your questions will be welcomed by representatives in attendance.

Booth No. 46

**SANDOZ PHARMACEUTICALS**  
Hanover, New Jersey

Sandoz Pharmaceuticals cordially invites you to visit our display where we are featuring Mellaril, Sansert, Cafergot-P-B, Fiorinal and Fiorinal with codeine.

Any of our representatives in attendance will gladly answer questions about these and other Sandoz products.

Booth No. 47

**PFIZER LABORATORIES**  
New York, New York

The Pfizer Laboratories' display has been specifically arranged for your convenience and to give you the maximum in quick service and product information.

To make your visit worthwhile, technically trained medical service representatives will be on hand to discuss with you the latest developments in Pfizer research.

Booth No. 48

**DAVID A. DYER INSURANCE AGENCY**  
Roanoke, Virginia

Specializing in group insurance programs for members of The Medical Society of Virginia—Disability Income, Major Hospital Nursing and Professional Overhead Expense Programs.

Booth No. 49

**MERCK SHARP & DOHME**  
West Point, Pennsylvania

The Merck Sharp & Dohme exhibit has been designed to supplement the physicians therapeutic armamentarium. Technically trained personnel are present to discuss the scope and variety of services offered.

Booth No. 50

**ABBOTT LABORATORIES**  
North Chicago, Illinois

Abbott Laboratories will feature the following products: Erythrocin® an antibiotic of unparalleled safety and known bactericidal action against many common pathogens, and Normosol solutions, modern successors to normal saline, dextrose in water, and dextrose in saline.



# DELEGATES TO THE 1967 MEETING THE MEDICAL SOCIETY OF VIRGINIA

Where no name is listed it is indicative that no delegate or alternate was reported in time for publication.

<i>Delegates</i>	<i>Alternates</i>
<b>Accomack</b>	
Dr. Walter A. Eskridge	Dr. D. F. Fletcher, Jr.
<b>Albemarle</b>	
Dr. George R. Minor	Dr. W. R. Dandridge
Dr. James C. Respass	Dr. J. R. Morris
Dr. John L. Guarrant	Dr. J. B. Twyman
Dr. W. Copley McLean	Dr. C. H. Gleason
Dr. Armistead P. Booker	Dr. McK. Wallenborn
<b>Alexandria</b>	
Dr. Wallace E. Baker	Dr. Robert H. Anderson
Dr. James M. Moss	Dr. H. H. Ferrell, Jr.
Dr. Thomas L. Lucas	Dr. W. J. Weaver, Jr.
Dr. F. Preston Titus	Dr. M. H. Kendrick
<b>Alleghany-Bath</b>	
Dr. George N. Chucker	Dr. Louis A. Houff
Dr. James P. Harnsberger	Dr. Charles F. Ballou III
Dr. Donald S. Myers	Dr. George L. Fischer
Dr. William P. Fletcher	Dr. Edward M. Bowles, Jr.
Dr. Wallace C. Nunley	Dr. Walter E. Vermilya
<b>Amherst-Nelson</b>	
<b>Arlington</b>	
Dr. J. O. Romness	Dr. M. L. Stoker
Dr. William D. Dolan	Dr. T. A. McGavin
Dr. Henry L. Bastien	Dr. J. J. Nolan
Dr. G. J. Fisher	Dr. H. F. Diamant
<b>Augusta</b>	
Dr. DuBose Egleston	Dr. John M. Stirewalt
Dr. J. Powell Anderson	Dr. Bernard H. Kasinoff
Dr. Wm. A. MacIlwaine	Dr. Boyd H. Payne
<b>Bedford</b>	
<b>Botetourt</b>	
<b>Buchanan-Dickenson</b>	
Dr. Ralph W. Hess	Dr. Bradley D. Berry
Dr. Joshua P. Sutherland	Dr. J. C. Moore
<b>Charlotte</b>	
<b>Culpeper</b>	
Dr. Robert L. Cassidy	Dr. C. G. Finney
Dr. George Ellis Broman	

<i>Delegates</i>	<i>Alternates</i>
<b>Danville-Pittsylvania</b>	
Dr. Ralph R. Landes	Dr. Baxter H. Byerly
Dr. F. H. McGovern	Dr. Eugene M. Evans, Jr.
<b>Fairfax</b>	
Dr. Kenneth W. Berger	Dr. Charles M. Aaronson
Dr. C. Barrie Cook	Dr. Rolf Koehler
Dr. John E. Prominski	Dr. Alan Mackintosh
Dr. William Reardon	Dr. Nelson Tart
Dr. Donald S. Thorn	Dr. Thomas M. Wright
<b>Fauquier</b>	
Dr. James B. Hutt, Jr.	Dr. James L. Dellinger
<b>Floyd</b>	
Dr. F. Clyde Bedsaul	Dr. Lawrence V. Marshall
<b>Fourth District</b>	
Dr. James L. Hamner	Dr. James T. O'Neal
Dr. Earle M. Bane	Dr. William B. Bishop
Dr. Robert S. Smith	Dr. Charles C. Ashby
Dr. Emerson D. Baugh, Jr.	Dr. James A. Kirkland
Dr. Cardwell C. Nuckols	Dr. Henry B. Showalter
Dr. A. Epes Harris, Jr.	Dr. William A. Shelton
Dr. William P. Terry	Dr. Charles W. Scott
Dr. Robert W. Bradley	Dr. Anthony J. Munoz
Dr. Maurice S. Rosenberg	Dr. Wayne M. Phipps
Dr. Walker P. Youngblood	Dr. Kasper Kaufman
Dr. William Grossmann	Dr. Nelson M. Smith
<b>Fredericksburg</b>	
Dr. Clement J. Robbins III	Dr. James E. Grimes
Dr. William Scott, Jr.	Dr. John B. Rose, Jr.
Dr. Thomas B. Payne	
Dr. William D. Liddle, Jr.	
<b>Halifax</b>	
Dr. Denys F. Sheriff	Dr. Nathaniel H. Wooding
<b>Hampton</b>	
Dr. F. A. Kearney	Dr. R. F. Clark
<b>Hanover</b>	
Dr. Wayne S. Hume	Dr. Garland Dyches
<b>James River</b>	
Dr. Julian H. Yeatman	Dr. Ayer C. Whitley
Dr. Russell N. Snead	
Dr. Wm. A. Pennington	
<b>Lee</b>	

<i>Delegates</i>	<i>Alternates</i>	<i>Delegates</i>	<i>Alternates</i>
<b>Loudoun</b>		<b>Portsmouth</b>	
<b>Louisa</b>		Dr. A. A. Kirk	Dr. R. M. Campbell
<b>Lynchburg</b>		Dr. L. L. Davis, Jr.	Dr. J. W. Hollowell
Dr. John W. Davis, Jr.	Dr. G. E. Calvert	<b>Prince William</b>	
Dr. Frank N. Buck, Jr.	Dr. S. Miles Bouton, Jr.	Dr. Alvin E. Conner	Dr. Nicholas G. Colletti
Dr. William H. Barney	Dr. E. A. Hansbarger, Jr.	<b>Richmond</b>	
<b>Mid-Tidewater</b>		Dr. Wm. H. Higgins, Jr.	Dr. William W. Martin
Dr. A. L. VanName, Jr.	Dr. D. E. Andrews	Dr. Carl W. Meador	Dr. Ernest L. Clements, Jr.
Dr. William B. Brown	Dr. H. W. Felton	Dr. Earnest B. Carpenter	Dr. James R. Darden, Jr.
Dr. Carl A. Broadus	Dr. R. B. Bowles	Dr. Emmett C. Mathews	Dr. David L. Litchfield
Dr. W. H. Hosfield	Dr. T. E. Smith	Dr. William T. Tucker	Dr. Joseph G. Rhode II
Dr. M. H. Harris	Dr. A. W. Lewis, Jr.	Dr. Owen Gwathmey	Dr. Austin I. Dodson, Jr.
	Dr. Shirley C. Olsson	Dr. Levi W. Hulley, Jr.	Dr. William M. Eagles
<b>Newport News</b>		Dr. W. T. Thompson, Jr.	Dr. Philip Frederick, Jr.
Dr. E. B. Mewborne	Dr. D. J. Cracovaner	Dr. Richard W. Dodd	Dr. Armistead Williams
Dr. Sam. H. Mirmelstein	Dr. Thomas C. Lawford	Dr. Harold Goodman	Dr. G. Watson James III
Dr. John Q. Hatten	Dr. I. F. Nesbitt	Dr. Richard A. Michaux	Dr. Frederick J. Spencer
Dr. Paul Hogg	Dr. R. T. Peirce, Jr.	Dr. W. Linwood Ball	Dr. James A. Selph, Jr.
		Dr. John B. Catlett	Dr. Wm. M. Oppenheimer
		Dr. H. A. Claiborne, Jr.	Dr. Lawrence Zacharias
<b>Norfolk</b>		<b>Roanoke</b>	
Dr. Claiborne W. Fitchett	Dr. T. W. Gouldin	Dr. Richard H. Fisher	Dr. G. G. Gooch III
Dr. Robert K. Maddock	Dr. R. B. Henry, Jr.	Dr. George S. Hurt	Dr. Michael Moore
Dr. Chas. N. VanHorn, Jr.	Dr. E. D. Levy	Dr. Frederick M. Jacobs	Dr. W. Conrad Stone
Dr. Robert J. Faulconer	Dr. F. N. Bilisoly	Dr. Robert L. A. Keeley	Dr. William P. Tice
Dr. James W. Creef	Dr. George H. M. Rector	Dr. John A. Martin	Dr. Philip C. Trout
Dr. Vernon L. Cofer, Jr.	Dr. Charles Devine, Jr.	Dr. Chas. A. Young, Jr.	Dr. A. L. Wolfe
Dr. R. Bryan Grinnan, Jr.		<b>Rockbridge</b>	
<b>Northampton</b>		Dr. Robert P. Irons	Dr. A. W. Pleasants, Jr.
Dr. William F. Bernart	Dr. J. R. Mapp	Dr. James H. Fagan	Dr. F. A. Feddeman
<b>Northern Neck</b>		<b>Rockingham</b>	
Dr. Norman R. Tingle	Dr. H. W. Goode, Jr.	Dr. John T. Glick, Jr.	Dr. Joseph E. Gardner
Dr. Robert E. Beatley	Dr. J. Motley Booker	Dr. George M. Nipe	Dr. J. T. Hearn
Dr. Horace E. Kerr	Dr. Harold E. Sisson	<b>Russell</b>	
Dr. Paul C. Pearson		<b>Scott</b>	
<b>Northern Virginia</b>		<b>Southwestern</b>	
Dr. Wm. B. Crawford, Jr.	Dr. H. W. Miller, Jr.	Dr. J. Scott Shaffer	Dr. C. Fred. Johnston, Jr.
Dr. James R. Holsinger	Dr. M. J. W. White	Dr. James E. Patterson	Dr. Cecil C. Hatfield
Dr. Don. H. McNeill, Jr.	Dr. Elizabeth B. Sherman	Dr. Carl E. Stark	Dr. Paul C. Hendrix
Dr. George H. Smith, Jr.	Dr. J. C. Hortenstine	Dr. Walter J. Stanford	Dr. Julian L. Givens
Dr. John P. Snead, Sr.	Dr. C. L. Riley	Dr. Charles R. Duncan	Dr. Walter J. Walker
Dr. James R. York	Dr. C. H. Iden	Dr. George W. McCall	Dr. Douglas D. Vance
<b>Orange</b>		Dr. Lester E. Dunman	Dr. Giles Q. Gilmer
Dr. J. Garnett Bruce, Jr.	Dr. H. F. W. Mohrmann	Dr. James W. Elliott	Dr. Chimer D. Moore, Jr.
<b>Patrick-Henry</b>		Dr. George B. Kegley	Dr. James H. Smith
Dr. Bate C. Toms, Jr.	Dr. F. T. Renick	Dr. Wm. F. McGuire	Dr. Moir G. Martin
Dr. William D. Lewis	Dr. Donald R. Holsinger	Dr. David S. Phlegar	
	Dr. Russell E. Herring, Jr.	Dr. Joseph H. Early, Jr.	

*Delegates**Alternates***Tazewell**

Dr. Robert A. Abernathy    Dr. James M. Peery

**Tri-County**

Dr. William R. Thornhill    Dr. Henry L. Gardner, Jr.  
Dr. Gordon G. Birdsong    Dr. Irwin H. McNeely  
Dr. B. F. Jamison    Dr. Desmond J. Longford  
Dr. George J. Carroll    Dr. Phillip R. Thomas  
Dr. William H. Rogers    Dr. E. C. Joyner

*Delegates**Alternates***Virginia Beach**

Dr. James P. Charlton  
Dr. K. K. Wallace, Jr.

**Williamsburg-James City****Wise**

Dr. Pierce D. Nelson    Dr. Joseph M. Straughan

### **Clinical Center Study of Patients with Carcinoma of the Stomach or Pancreas**

The cooperation of physicians and surgeons is requested in the referral of patients with carcinoma of the stomach or pancreas for a study of radiotherapy being conducted by the National Cancer Institute's Radiation Branch at the Clinical Center of the National Institutes of Health, Bethesda, Maryland.

Patients with biopsy-proven, surgically unresectable carcinoma of the stomach or pancreas are of interest—particularly those with normal renal function and no history of hypertension or cardiovascular disease who have recently undergone an abdominal exploration and have completed their post-operative recovery.

Selected patients will be admitted to the Clinical Center as inpatients for the duration of their treatment (approximately 3 weeks), and subsequently will be rehospitalized as indicated for supportive care. Upon completion of their studies, patients will be returned to the care of the referring physician who will receive a full report of the studies done.

Physicians and surgeons interested in having their patients considered for admission to this study may write or telephone: Ralph E. Johnson, M.D., Clinical Center, Room B1-B-41B, National Institutes of Health, Bethesda, Maryland 20014, Telephone: 656-4000, Ext. 65457 (Area code 301)



# The Medical Society of Virginia . . .

## REPORTS FOR 1967 ANNUAL MEETING

### Executive Secretary-Treasurer

As the years roll by we always have the feeling that the one just passed had to be the busiest, most challenging and certainly the most productive of them all. We have that feeling now about 1966-67 and perhaps this time we are more justified than usual.

These past twelve months can perhaps best be described as having to do with the trials, errors and agonies of Medicare. To say that these have been months of adjustment would be an understatement. Medicare has caused physicians—and indeed all Americans—to modify their thinking, learn new procedures and take a long, hard look at the future. The past year has revealed that many of medicine's greatest fears will be realized. The prediction of personnel shortages, overcrowding of facilities and the evils surrounding governmental red tape have been borne out.

It is generally agreed by those who are supposed to know about such things that there must be a slowdown in the rate of progress made by medicine in the past thirty years. This is the price a nation and profession must pay for "free" medical care—the type of free care that brings with it excessive and oppressive restrictions and regulations.

And now, as if Medicare wasn't enough, Medicaide (Title XIX) is beginning to make its presence known. Here we have a program which came in through Medicare's back door and which carried an original cost estimate of approximately 24 million dollars. During its first year—with only half of the states participating—the cost exceeded 2.2 billion dollars. It is generally conceded that this "monster" program represents by far the greatest step yet taken by this nation down the road to total socialized medicine.

Perhaps, as the late President Kennedy once said, we are running some twenty years behind England and other European nations. If this is true, then there is some cause for long range optimism. The reason is that 1966-67 has found the English turning more and more away from their National Health System. According to recent reports, voluntary prepay health insurance is making a comeback in the land of pomp and pageantry. It would seem that a people as enterprising as Americans have always been would profit from the experience of their friends across the sea and take corrective action now—rather than be subjected to the agonies of a 20-30 year cycle from which any escape is attempted through sheer desperation!

This is why the battle continues. It is no longer a battle of the sword clashing variety such as dominated the American scene for over twenty years. That phase of the struggle is now history—written for all to see in pages of Public Law 89-97. Medicine, working through its state and territorial medical societies is now making a determined effort to eliminate the evils and shortcomings which have shown up during the first full year of Medicare. Now, then, is the time for renewed effort on the

part of the profession—fired by a desire to make the best of a bad situation and the determination to maintain the high quality of medical care which has become an American tradition.

As The Medical Society of Virginia begins another page in its history of service to the physicians and citizens of Virginia, let us look back briefly on the past year and a few of its accomplishments.

*Finances:* Although your Society continues to operate on a sound financial basis, there does exist some concern as to how long it can continue to assume now work loads and responsibilities without seriously considering a raise in dues. Frankly, your Executive Secretary hopes very much that any such increase can be held off just as long as possible—if not forever.

*Personnel:* We regret very much that Mrs. LaRuth Spring, who had been in charge of all membership records, was forced to resign for reasons of health. Mrs. Spring was a loyal and efficient employee and people of her calibre are not easily replaced.

We were fortunate, however, in securing the services of Mr. James L. Moore, who has assumed not only the duties of Mrs. Spring, but also a number of other general administrative responsibilities.

In order to round out our staff, we obtained Mrs. Alease Hurt to handle the secretarial and other work associated with membership. This is an extremely important part of an overall administrative function since accuracy is absolutely necessary.

In order to keep pace with our increased workload, it became necessary to take over the second floor office formerly occupied by VAMPAC. Miss Watkins now occupies that space and all of the work connected with the Virginia Medical Monthly is done there.

*Membership:* It is good to report that 164 new members were added to the Society rolls during the year. While this would seem to be a commendable figure, we still feel that the increase should have been greater. Since membership in The Medical Society of Virginia is contingent upon membership in a component society, we wonder just how many physicians coming into the State somehow never get around to applying for membership locally. Membership facts and figures follow in detail:

July 31, 1966	3,374
New	164
Reinstated	9
—	—
Increase	173
Deaths	56
Resignations	25
Dropped	34
—	—
Decrease	115
Net Increase	58
July 31, 1967	3,432

*Committees:* Forty-four committees were active during the year—an all time high. Some of their accomplishments are certainly worth mentioning.

As this is being written, our Special Committee on Pharmacy is hard at work trying to resolve two problems of much concern to the physician—those having to do with dispensing of drugs and the payment of a sales tax under certain conditions. It is quite likely that a detailed report will be presented by the Committee within the next few weeks.

Your Insurance Committee is presently negotiating a retirement plan which will qualify under the Keogh Act. As you know, Keogh has been amended in such manner as to make increased benefits available beginning January 1, 1968. We have every reason to believe that The Medical Society of Virginia will have an unusually fine retirement program ready by late fall—leaving plenty of time for physicians to make their plans accordingly.

The following pages contain reports of many of our committees, and they all make interesting reading. The physician truly interested in his Society should make the reading of the reports a must.

*Conferences:* The Third Annual Conference on the Medical Aspects of Sports was held this year in Blacksburg at the VPI Coliseum. Presented in cooperation with the Virginia High School League, the Conference attracted a total registration of 165 team physicians, coaches and trainers. The scientific program was excellent and members should plan now to attend the 1968 Conference in Charlottesville. It will be held, in all likelihood, on Sunday, July 21.

Senior Day Programs were again presented for senior medical students at the Medical College of Virginia and University of Virginia. The Executive Motor Hotel was the scene of the Richmond program, and the Downtowner Motor Inn provided the setting for the Charlottesville event.

The Committee on Mental Health again co-sponsored a Symposium at Richmond's Westbrook Psychiatric Hospital. These Symposiums are planned with the family physician in mind, and are proving quite popular.

Your Society is also co-sponsoring a Special Seminar on Investments and Estate Planning for Physicians to be held in Roanoke. Working with The Medical Society of Virginia are the Southwestern Virginia Medical Society and the Richmond Professional Institute. This Seminar will feature an outstanding array of speakers and, if well received, will undoubtedly be duplicated in other areas of the state.

*Meetings:* We have been waiting for ten years for someone to say it, but thus far our wait has been in vain. Now we will muster all our courage and offer the opinion that there are just too many meetings! There are so many that it is becoming more and more difficult to determine which ones should have priority. There is no doubt that The Medical Society of Virginia should be represented at many of them, but there are budgetary limitations which make it necessary for the President to weigh each meeting and conference carefully. His decisions must be made on the basis of which meetings offer the greatest return on the Society's investment.

Among the many meetings and conferences at which

the Society was represented were two sessions of the AMA House of Delegates, the AMA Public Relations Institute, the Annual Meeting of the Professional Convention Management Association, National Rural Health Conference, an Annual Workshop of the Medical Society Executives Association, the 4-H Club Award Ceremony at Blacksburg, the National AMPAC Workshop in Washington, two sessions of the Virginia Board of Medical Examiners, the Annual AMA Conference for Mental Health Committee Chairmen, Annual Meeting of the Virginia State Dental Association, Annual Meeting of the Virginia Medical Assistants Association, Annual Meeting of the Virginia Pharmaceutical Association, National Health Forum, an AMA sponsored Conference on Emergency Medical Services, the Conference of Presidents and other Officers of State Medical Associations, and the Annual Meeting of the Virginia Council on Health and Medical Care.

*Virginia Medical Monthly:* The official publication of The Medical Society of Virginia continues to thrive and its future looks bright indeed. Advertising volume showed an increase during the year and your editors have good reason to believe that this trend will continue. There is, of course, always a little bad news to go along with the good. Printing and mailing costs continue their upward climb and threaten to cancel out any gains in advertising revenue. We continue, however, to hope for the best.

Dr. Warthen is rapidly becoming known over the nation for his stimulating editorials. Excellent scientific papers represent the other half of a one-two punch which has placed the Virginia Medical Monthly near the very top of state publication ratings. Our Managing Editor, Miss Spencer Watkins, is responsible for the attractive and readable format and is constantly looking for new ways to improve the Monthly's overall appearance and makeup.

We sometimes suspect that when something is very good and retains its high quality year after year, it is often placed in the unenviable position of being taken for granted. We certainly hope this isn't true where the Virginia Medical Monthly is concerned. It is simply too fine a publication for that. We make this statement even at the risk of being called prejudiced—which, of course, we doubtless are! Even so, we still think we are right.

*President and Council:* As the Society's year draws to a close, we find the name of Dr. K. K. Wallace added to our long list of able and dedicated Presidents. Once again The Medical Society of Virginia has received the type of guidance and leadership which can only come from a forceful and progressive individual.

In an effort to provide the Society the best possible administration, Dr. Wallace initiated monthly meetings of the Executive Committee of Council. These sessions made it possible for problems of an immediate nature to be handled without delay, and also serve to expedite matters which might otherwise be held in abeyance from necessity.

Three meetings of Council will have been held by the time the Speaker's gavel signals the beginning of another session of the House of Delegates on October 19. These have been long, exacting sessions, and members are urged



to read carefully the Minutes published in the Virginia Medical Monthly.

In today's very complex world, physicians need local and state medical societies more than ever. No longer is it humanly possible for the physician to do everything for himself. And medical societies need physicians—all physicians—also more than ever! There is indeed strength in numbers and today we need that strength which only comes from a concerted and sustained effort by individuals bound together by common goals and unity of purpose.

Please, visit your Headquarters Building at your earliest convenience and let the staff know just how it can serve you better. We are always interested in your thoughts and suggestions. Only in this way can we prove our contention that "the only way the value of a professional association can be measured is in terms of services to its members."

ROBERT I. HOWARD  
*Executive Secretary-Treasurer*

### AMA Delegates

The 1967 Annual Meeting of the American Medical Association was without doubt one of the most interesting in its long history. Meeting in Atlantic City, the House of Delegates spent literally "hours and days" grappling with matters of particular importance to physicians during these days of change and adjustment. The House sessions were attended by all three of the Delegates and this report represents their effort to keep the membership current on some of the more controversial and important matters. As a matter of fact, there were 151 items of business considered—including a record total of 123 resolutions.

### *Therapeutic Abortion*

One subject that has generated interest not only in the profession but among legislatures and the public is therapeutic abortion.

The House updated the Association's 1871 policy on the subject which, according to the Reference Committee report which was adopted, was not only antiquated but lacked even the rudiments of adequate safeguards to prevent abuse. The updated policy, the House agreed, is in keeping with modern scientific knowledge, contains necessary safeguards and permits the physician to exercise his personal conscience and medical judgment in the best interest of his patient, over-riding objectives in any medical decision.

The following was established as policy of the American Medical Association:

"... Recognizing that there are many physicians who, on moral or religious grounds, oppose therapeutic abortion under any circumstances, the American Medical Association is opposed to induced abortion except when:

"(1) There is documented medical evidence that continuance of the pregnancy may threaten the health or life of the mother, or

"(2) There is documented medical evidence that the infant may be born with incapacitating physical deformity or mental deficiency, or

"(3) There is documented medical evidence that continuance of a pregnancy, resulting from legally established statutory or forcible rape or incest may constitute a threat to the mental or physical health of the patient;

"(4) Two other physicians chosen because of their recognized professional competence have examined the patient and have concurred in writing; and

"(5) The procedure is performed in a hospital accredited by the Joint Commission on Accreditation of Hospitals.

"It is to be considered consistent with the principles of ethics of the American Medical Association for physicians to provide medical information to State Legislatures in their consideration of revision and/or the development of new legislation regarding therapeutic abortion."

### *Health Care Cost*

The House adopted a statement from the Board of Trustees Report which said "Today . . . the ability of the physician to serve his patient is being handicapped by the rapidly rising prices of the various components of health care."

The report went on to say that if the price of health care continues to outrun slower increases in consumers' income, the problem of medical indigency will assume alarming proportions.

A number of actions were taken to outline possible solutions to the problems of higher health care costs. An important one was the adoption of a progress report on strengthening and improving voluntary health insurance programs, submitted by the Council on Medical Service. The House accepted the Council's statements that it would "continue to study the scope and patterns of benefits, public demands for coverage, the performance of health insurance and prepayment programs."

### *Government Health Programs*

As might be expected, a great many reports and resolutions dealt directly or indirectly with the Association's relationships with government and with the multitude of government programs existing or proposed in the health field.

The House re-affirmed Association policy that "The medical profession has long and consistently held to two basic positions concerning personal health care and its financing; that no one should go without needed care because of inability to pay, and that responsibility for payment rests first on the individual himself and then, to the extent that he is unable to pay, on his family, the community, the county, the state, and, to the extent that lesser levels of government are unable to finance the care, the federal government."

Regarding the Title XIX program, the House made it policy that "the medical profession should now take a firm stand in support of the Title XIX approach in improving the health and the delivery of health care services to the needy of the nation."



Recommendations adopted by the House are that the medical profession take a strong stand in support of implementation of Title XIX "while still seeking such changes in the federal legislation and/or regulations as will improve this program; that it urge organized medicine to take a leading role in formulating and directing Title XIX programs at the state and local level . . . and that it incorporate in such planning the use of existing voluntary mechanisms and private insurance carriers, wherever feasible, utilizing the usual and customary fee principle, thus bringing within the mainstream of present medical care systems the provision of quality health care for all Americans."

#### *Collection and Disbursement of Professional Fees*

In adopting a report of the Council on Medical Service regarding collection and disbursement of professional fees, the House reaffirmed past action and provided clear, consistent policy statements reflected in these thoughts which are elaborated in the full report:

1. It is proper for the physician to establish the fee he charges to any patient for professional service rendered, with the recognition that a duly constituted committee of his peers may appropriately review and pass upon the equity and justice of his charge.

2. It is proper for third party agencies to make payment of professional medical fees for patients.

3. It is proper for a physician to work with other physicians in a team approach to the provision of medical service, recognizing that each is entitled to compensation according to the value of his services and that charges attributable to each physician's service shall be made clear to the patient.

4. It is proper for a physician who provides personal supervision and direction for a physician-in-training to charge for the professional medical service rendered.

5. A physician should not enter into a contract or agreement with a hospital whereby the hospital acts as the agent for him unless it is with the consent of the physician and of the medical staff.

6. Physicians, collectively in hospitals, may properly establish special medical staff funds, wholly under their own control, which they may support as they see fit, disburse as they may agree.

7. Fees for professional medical services are properly paid only to the responsible physicians and may not be appropriated by any other person or agency.

8. The physician is the sole arbiter as to the ways he may dispose of his professional income, without duress, consistent with the laws of the land and the Principles of Medical Ethics of this Association.

#### *Medicine and Osteopathy*

The House adopted the following recommendations of the Board regarding the medical profession's relationships with osteopathy:

1. Authorize the Board of Trustees to begin promptly negotiations directed toward beginning official change of schools of osteopathy to schools of medicine. (It is understood that from the American Medical Association

funds will be required to conduct these negotiations, and assistance in identifying and securing additional funds from other sources to support efforts toward changing the schools.)

2. Authorize the Council on Medical Education to undertake negotiations to establish means by which selected students with proven satisfactory scholastic ability in schools of osteopathy may be considered by schools of medicine for transfer into medical school classes.

The primary issue in the relationship of medicine and osteopathy, as recognized by the House, seems to be not that of cultism as opposed to science. Rather the issue appears to be one level of medical education and practice as opposed to another and lower level of education and practice. The extensive and growing licensure of osteopathic physicians for the unrestricted practice of medicine and the nature of osteopathic education strongly indicate that time alone will resolve shortly the problem of cultism in relation to osteopathy.

#### *Disability Insurance Program*

The House adopted the report of the Reference Committee on this subject, and referred to the Board a number of resolutions pertaining to it.

The committee's report, as adopted, recommended that the House authorize the Board to make every effort to continue the AMA Members Group Disability Insurance Program with the same premium-benefit structure. It also recommended the following guidelines to aid the Board in negotiating and executing the necessary contracts and in the future operation of the program:

1. The contract should provide ample assurance that disability claimants will be treated equitably and justly.

2. The carrier should guarantee benefits and premiums for a period of at least five years in order to assure the stability of the program.

3. Promotional literature should be approved in advance by the Board or its designee. All measures within the bounds of dignity and ethics should be utilized to promote the program.

4. A continuous ongoing review of the entire program should be maintained. The insureds and other members should be made aware that such a review may reveal in the future the necessity for a revision of the program at the end of the five-year period.

5. Information regarding the operation of the program, its financial aspects and the processing of claims should be available to the Board for review at any time.

6. An AMA Disability Insurance Review Committee should be continued and should provide a mechanism for claims review.

#### *Political Action*

Several resolutions were offered to the House questioning whether the administration of government programs is truly carrying out the intent of Congress in its passage of laws. They were combined by the House into one resolution stating "That if legislation is introduced to investigate the activities of the Department of HEW and its executive personnel who are concerned with health

matters to determine if the intent of Congress is being carried out, the American Medical Association will provide to such an investigation any information that its Board and councils may secure in these matters."

The resolution also pointed out that since the most effective method to preserve the private practice of medicine is to elect proper officials at all levels of government, "the American Medical Association urges that physicians, as individuals, redouble their efforts in political activities."

The House also adopted a resolution "That medical societies be urged to investigate, document and report to the Law Division . . . all violations of Public Law 89-97 by officers or employees of the federal government" and that "a status report be provided to this House at the 1967 Clinical Convention."

#### *New Officers*

Dr. Milford O. Rouse, Dallas, Texas, succeeded Dr. Charles L. Hudson as President. Dr. Dwight L. Wilbur, San Francisco, California was elected President-Elect.

New members of the Board of Trustees were Dr. Edward R. Annis, Miami Florida, and Dr. Burt L. Davis, Palo Alto, California.

#### *Miscellaneous Action*

Among other things, the House also:

1. Confirmed that there is nothing in the military officer oath that conflicts in any way with the ethics of the medical profession.
2. Noted that a double standard of policy often exists between so-called "hospital-based specialists" and other types of practitioners with respect to hospital staff appointments and endorsing "the principle of a single standard with respect to staff appointments among all physicians having equivalent credentials in all hospital departments and services as a means of assuring maximum freedom of choice of physicians by patients, and of consultants by staff members."
3. Opposed the establishment of a racial quota system for hospitals.
4. Adopted a Virginia resolution encouraging farm equipment manufacturers to establish standards for basic overturn protective frames and crush-resistant cabs.
5. Reaffirm AMA policy regarding tobacco and health.
6. Reaffirmed AMA opposition to certification and recertification.
7. Supported continued research and control measures for venereal disease.
8. Urged that disposable hypodermic syringes be thrown away in such a way as to prevent their possible reuse.

W. LINWOOD BALL, M.D.

ALLEN BARKER, M.D.

W. CALLIER SALLEY, M.D.

#### **Membership**

Growth is always a healthy sign, and your Committee is very pleased to note that the 3,400-member level has been surpassed. While our growth rate is good, we should

never be guilty of being satisfied with something which is merely "good enough".

There remains a goodly number of physicians who, for one reason or another, have never seen fit to join the ranks of "organized medicine", and it is the hope of this Committee that a very determined effort can be made to correct this situation during the coming year. If each of us would strive to bring in just one new member, Virginia would rank at the very top of the list as far as the number of participating physicians are concerned.

Your Committee has the privilege of nominating our distinguished President, Dr. K. K. Wallace, for honorary active membership in The Medical Society of Virginia. Dr. Wallace, through his dedicated efforts on behalf of medicine in Virginia, has added his name to the list of medical statesmen who have served their profession so well.

PAUL D. CAMP, M.D., *Chairman*

RICHARD F. HAWKINS, M.D.

ANDREW HARGROVES, JR., M.D.

#### **Public Relations**

It is quite probable that the most overworked words in the English language are "Public Relations". It is also quite probable that physicians are becoming tired of being told that their public relations needs improving—that their future well-being depends, in large part, on just how effective their own personal efforts are in this regard. The truth of the matter is that your Committee doesn't like to keep pounding away on the need for improved public relations either—but it has no alternative.

Those who are supposed to know about such things tell us that, with the implementation of medicare and its multitude of problems, overall medical care in this country can no longer be expected to match its steady gains and improvements of the past. This means that the public will become more critical, ask more questions and be quick to affix blame for those inconveniences which are always the end result of any system overloaded and restricted by governmental red tape. It is this same public which holds in its hand the key to just how far this nation will be permitted to go in its flirtation with government medicine. This is why we cannot turn our backs on "public relations"—even though we wish we could eliminate these words from our vocabulary for just a little while. When this can be done it will mean that the medical profession has once again assumed its proper role of leadership in a troubled world. In the meantime, let us double our efforts and hasten the coming of this great day.

The Medical Society of Virginia can point with pride to some excellent PR accomplishments during the year, and we appreciate the privilege of bringing a few of the more interesting to your attention.

Two very successful Senior Day Programs were presented for senior medical students at the Medical College of Virginia and University of Virginia School of Medicine. The former was held at Richmond's Executive Motor Hotel and the latter at Charlottesville's new Downtowner Motor Inn.

The third annual Conference on Medical Aspects of Sports was held this year at Blacksburg in the new VPI Coliseum. Over 150 physicians, coaches and trainers



turned out for three excellent scientific papers and a most enjoyable social hour and dinner which followed at Lendy's Restaurant. The Conference was again presented in cooperation with the Virginia High School League and must be considered the best yet.

VPI was also the scene of the Annual 4-H Club Awards Ceremony and The Medical Society of Virginia, through its Committee on Rural Health, again presented certificates and radios to those six young Virginians who scored highest in the Health Project category. The presentations were made before some 1,200 persons, and we consider this one of the finest PR projects of all.

Your Chairman and Executive Secretary were fortunate to again attend the AMA Public Relations Institute in Chicago. Perhaps some day we can convince our component societies that it would be well worth their while to send representatives to this outstanding meeting. This is the surest way we can think of to generate enthusiasm for PR programs at the local level.

Television medium came in for its share of attention this year, and two excellent programs were presented over Richmond channels. In this connection, your Committee would like to express its appreciation to Dr. Robert Hudgens, who handled the arrangements for both programs. We also take this occasion to commend the Virginia Association of Professions, of which The Medical Society of Virginia is a charter member, for the part it played in obtaining prime television time for its member organizations.

As this report is being written, plans are well along for a special seminar on investments for physicians to be presented in Roanoke on September 8. This seminar is being arranged for us by the Richmond Professional Institute, and the Committee will handle the registration expense on this pilot project. The seminar will feature some of our foremost authorities on stocks, bonds, mutual funds and trust and agency accounts. Should it be well received, it is our plan to present similar seminars in other areas of the state.

The Medical Society of Virginia continued its close working relationship with the Virginia Association of Medical Assistants. Dr. John T. Jarrett is currently serving as the Society's official liaison representative to that fine organization. The Committee cooperated with the Medical Assistants by assisting with a panel on public relations presented during its 1966 annual meeting. Another panel is being planned for the 1967 session during which the Executive Secretary will discuss the failure of some medical assistants to practice good public relations as revealed through grievances received in the state office.

Your Chairman had the privilege of serving as a member of the Committee on Legislation and Public Policy of the American Academy of General Practice. He attended one session in San Francisco in this capacity. He also again represented The Medical Society of Virginia at the meeting of the National Health Forum—held this year in Chicago.

The popularity of radio seems to be growing each year, and we are pleased that "Doctor's House Call" continues to be a popular program in several areas of the State. These daily five minute health messages prompted twelve inquiries from listeners during the year and they were

all answered. Dr. Robert Bailey, Richmond, has been of tremendous assistance to the State office staff in this regard.

As we look back over the past year, we can only regret that so many worthwhile things were left undone. This, however, is a sign of our times and we suspect that something would indeed be wrong if we ever really realized all our objectives. One thing is certain, however—all of us had better find time to strengthen and practice our own personal public relations. The hour might well be later than we think.

JOHN WYATT DAVIS, M.D., *Chairman*

## Ethics

Your Committee has had three matters referred to it during the year—one of which required a special session of the Committee in Williamsburg during the 1966 Annual Meeting of The Medical Society of Virginia. These matters seem to have been resolved in a manner satisfactory to all.

In looking back on some of the problems brought to the Committee's attention, we note what seems to be a reluctance to first seek solutions through local ethics committees. It is always best to solve problems involving ethics as close to the local level as possible, and both the AMA Principles of Medical Ethics and By-Laws of The Medical Society of Virginia recognize this fact. We would like, therefore, to encourage the use of local ethics committees whenever possible.

We would like to call attention to a publication now available from the American Medical Association containing ethical guidelines for clinical investigation. These guidelines were adopted by the AMA House of Delegates in November 1966. This same pamphlet contains the so-called "Declaration of Helsinki"—a series of recommendations guiding physicians in clinical research. This Declaration was adopted by the World Medical Association in 1964.

Your Committee would like at this time to present the following statement and guidelines concerning professional courtesy adopted by the AMA Judicial Council in June 1967:

"The custom of professional courtesy embodies the ancient tradition of fraternalism among physicians in the art which they share, and their mutual concern to apply their learning for the benefit of one another as well as their patients. The Judicial Council reaffirms and endorses the principle of professional courtesy as a noble tradition that is adaptable to the changing scene of medical practice.

"Professional courtesy is not a rule of conduct that is to be enforced under threat of penalty of any kind. It is the individual responsibility of the physician to determine for himself and within his own conscience to whom and the extent to which he shall allow a discount from his usual and customary fees for the professional services he renders, and to whom he shall render such services without charge as professional courtesy.

"The following guidelines are offered as suggestions to aid physicians in resolving questions related to professional courtesy.



"1. Where professional courtesy is offered by a physician but the recipient of services insists upon payment, the physician need not be embarrassed to accept a fee for his services.

"2. Professional courtesy is a tradition that applies solely to the relationship that exists among physicians. If a physician or his dependents have insurance providing benefits for medical or surgical care, a physician who renders such service may accept the insurance benefits without violating the traditional ethical practice of physicians caring for the medical needs of colleagues and their dependents without charge.

"3. In the situation where a physician is called upon to render services to other physicians or their immediate families with such frequency as to involve a significant proportion of his professional time, or in cases of long-term extended treatment, fees may be charged on an adjusted basis so as not to impose an unreasonable burden upon the physician rendering services.

"4. Professional courtesy should always be extended without qualification to the physician in financial hardship, and members of his immediate family who are dependent upon him."

RUSSELL G. McALLISTER, M.D., *Chairman*

A. L. VAN NAME, JR., M.D.

ASHBY COLEMAN, M.D.

#### Editorial Board

Thanks to an increase in advertising during the current year the Virginia Medical Monthly has been able to reduce its annual deficit to about \$2,000.00. The receipts for 1967 are \$30,978.00 as compared to \$24,945.67 last year. This almost would have permitted the journal to break even but inflation has raised its ugly head and costs have increased from \$30,682.95 in 1966 to \$32,986.66 in 1967.

As The Queen told Alice in *Through the Looking Glass* "it takes all the running you can do to keep in the same place." In spite of The Great Society and a Commissioner of Rats to wipe out rodents at six dollars per head we hope that next year the VMM will be able to pull its weight in the boat without subsidization by The Medical Society of Virginia. That is—if Commissioner of Internal Revenue Sheldon S. Cohen is prevented from imposing a 48% tax on our net advertising income. Thus far Representative Joel T. Broyhill of our Tenth Congressional District and similarly inclined stalwarts in The House have succeeded in holding him off. May they be successful!

H. J. WARTHEN, M.D., *Chairman*

#### Judicial

There has been no specific business referred to the Judicial Committee. The members of the Judicial Committee all served on the Committee for Revision of the Constitution and By-Laws. The report of this special committee is submitted under its own name.

R. H. FISHER, M.D.

CHARLES W. WHITMORE, M.D.

JOHN A. MARTIN, M.D., *Chairman*

#### Cancer

During the past year, the Cancer Committee has concerned itself with three projects. The first of these involves a survey by members of the committee of the tumor clinics throughout the State. This is a preliminary attempt at evaluation of the tumor clinics and an effort will be made to set up guide lines whereby a more extensive survey may be done at a later date by a special investigator of the State Department of Health. This type of survey is long overdue, as there has been no basic change in the policy of our diagnostic or therapeutic tumor clinics over the past twenty-five years. It is hoped that such a project will be concluded within the next year and that the results of said survey may be made available to all members of The Medical Society of Virginia.

The second project the Cancer Committee has undertaken is to attempt to evaluate the new program of the federal government for heart disease, stroke and cancer as to its effect on cancer control in Virginia. As these programs are still only in the planning stages, it has been most difficult for our committee to obtain definite information as to its effect in each local community. Efforts in this regard will continue.

Our last project was mentioned in our report for last year and concerns cancer detection tests as an important part of annual physical examination. Again, this committee would like to urge that all members of The Medical Society of Virginia, whenever possible, perform those routine cancer detection tests such as, breast examination, pelvic examination with Pap smears, sigmoidoscopic examinations and chest x-rays in routine pre-employment examinations and annual physical exams. It is understood that these types of examinations cannot be made a required part of any physical examination, but our committee strongly feels that if the physician offers these to the individual patient, many of them will be accepted. In addition to this we go on record as urging all employers to provide the necessary funds to pay for such examinations, should they be requested.

The chairman of this committee wishes to thank each member of the committee as well as the officers of The Medical Society of Virginia for their close cooperation during the past year.

CLAIBORNE W. FITCHETT, M.D., *Chairman*

#### Medicine and Religion

During 1966-7 the Committee on Medicine and Religion met once to discuss the program. Although there are 48 county medical societies representing Virginia's 100 counties, only 10 local medical societies have a Committee on Medicine and Religion. Several of these are quite active; others are virtually static; some have had initial programs but have made no further effort.

To generate more momentum for the program our Committee has divided the State into six districts. It is our plan to increase activity within each district, improve the reporting of meetings, and have an annual workshop in September for all local chairmen of the various Committees on Medicine and Religion.

H. M. ROGERS, JR., M.D., *Chairman*

## Dependents Medical Care

Your Committee met twice during the past year, and some twenty-five claims requiring special study and consideration were reviewed. This number represents a slight decrease over previous years—an encouraging sign.

It was this Committee's recommendation to Council that every effort be made to have physicians' fees paid on a "usual and customary" basis. As a result, Council held meetings with General Peatfield and Colonel Hayes of the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) and the "usual and customary" approach was adopted. This in itself should serve to reduce by fifty per cent the number of claims presented for review.

During its negotiations with CHAMPUS, Council fought vigorously for the right of a physician to bill direct should he so wish. The Society has now been assured that, although the Program was not set up with direct billing in mind, it is possible nevertheless. The key is, of course, the patient—who has free choice of physician. Should a physician be selected who uses the direct billing approach, the patient must seek reimbursement directly from CHAMPUS.

All in all, the Program seems to be proceeding nicely and should run even more smoothly as a result of these recent negotiations. We do hope that everyone understands the necessity for reviewing claims which require special consideration in the absence of applicable directives and guidelines. Delays, in such instances, are unavoidable and the Committee can only regret the inconvenience they cause.

W. LINWOOD BALL, M.D., *Chairman*

## Air Pollution

The Air Pollution committee has had two meetings at Society Headquarters in Richmond during the year, on February 25 and May 20.

Also the chairman and at least two other members of the committee attended the Third National Air Pollution Conference in Washington, December 12-14. This was a well organized, authoritative and informative conference.

It is only comparatively recently that air pollution has been recognized as the major problem that it is. For this reason there is currently a tremendous amount of interest and activity in the field at all levels of government.

In addition to a new federal law there is a new state air pollution control law in Virginia. This is a well written law and appears to provide for the machinery necessary to attack the problem effectively.

An Air Pollution Control Board has been established with headquarters in Richmond. The administrator is Mr. Richard Arey, and he was able to meet with us at the May meeting.

Before too many steps can be taken in the way of enforcement more preliminary work must be done. This includes the establishment of allowable levels for the various pollutants.

Progress is being made.

We are fortunate in that Senator William Spong is

very interested in this subject and serves on the Senate Sub-Committee on Air Pollution.

W. S. HOTCHKISS, M.D., *Chairman*  
THOMAS N. HUNNICUTT, JR., M.D.  
EDWARD S. RAY, M.D.  
DANIEL N. ANDERSON, M.D.  
EDWARD M. BOWLES, JR., M.D.  
CHARLES L. SAVAGE, M.D.  
JAMES M. MACMILLAN, M.D.

## Alcoholism

"The rose and the thorn  
and sorrow and gladness  
are linked together."

—SAADI

So, alcohol and alcoholism are, unfortunately, inseparably bound. Most of us want the rose of alcohol without the thorn of alcoholism, which pricks the stability of rational behavior.

Nearly all human cultures use drugs—and alcohol is a drug, albeit an anesthetic type. Americans are not about to stop drinking, since it "gives more pleasure than pain".

We live in an immature society, which, with fortunate exceptions, is also an irresponsible society. Our duties and responsibilities are clear to us, but most of us are unwilling to forgo our own pleasures, and many of us are inadequate to cope with the age of anxiety, especially with a backdrop of war. The rest of us are unable or unwilling to assume the deficit of responsibility thereby created. We physicians have never lived up to our responsibilities in the battle against this complex medical-social-psychological disorder, alcoholism.

During the past year, big strides have been made at a national level. According to Dr. Marty Mann, of the National Council on Alcoholism, in 1966 the United States finally discovered alcoholism. Our country is at last admitting that it has a drinking problem and it means to do something about it. This was the year when, for the first time in history, the President of the United States spoke clearly and forcefully about alcoholism in his message to Congress, giving a mandate for Federal action.

This was the year when President Johnson appointed a National Advisory Committee on Alcoholism to guide the Secretary of the Department of Health, Education and Welfare on long-range planning, and on priorities for Federal action.

This was the year when the National Center for the Prevention and Control of Alcoholism was established within the National Institutes of Health.

This was the year when the Courts spoke out and the Easter and Driver decisions removed the brand of "criminal" from the alcoholic and restored his dignity as a human being with a treatable illness.

This was the year when the American Medical Association called in a group of experts to give them guidance on how organized medicine should combat alcoholism.

For the fight against alcoholism, this was the year that was.

But it was just a beginning. Some major battles have been won, but the war is still in progress. The means



must still be found to bring all segments of opinion into line with the best progressive thinking on this menace to our nation's health. Truly adequate resources for treatment are still a dream, not a reality. Many organizations and groups, including the majority of American businesses, are still evading and avoiding their responsibilities in this area.

To do the remaining job effectively—and it is a monumental job—will require greatly intensified efforts by all agencies and individuals who serve this field. The National Council on Alcoholism stands ready—with plans for intensifying and extending its total program—and with special plans for a new coordinated community approach to alcoholism as a social problem.

Our vigorous efforts at a state level continue, but most of the work with alcoholics still has to be done at a local level. In this practically all interested physicians can lend a helping hand.

WILLIAM S. SLOAN, M.D., *Chairman*  
JAMES ASA SHIELD, M.D.  
EBBE C. HOFF, M.D.  
WILLIAM F. GIBBS, M.D.  
WEIR M. TUCKER, M.D.

### Insurance

Your Committee met twice during the past year and can repeat that all Society sponsored programs are being administered in a sound and satisfactory manner.

During its March meeting the Committee reviewed the professional liability program in great detail and accepted a recommendation that any further premium adjustments be delayed until the effect of the 1966 changes could be fully evaluated. It is unfortunate that Virginia seems to be caught up in a nationwide trend toward more and more malpractice suits. We are fortunate, however, in that our experience—by comparison—is good. As far as experience over the nation is concerned, there is only one word to describe it—disastrous!

The fact that our program—underwritten by the St. Paul Companies—has proved itself one of the best in the nation can be attributed to the high rate of participation by our members. This figure has now reached 86 per cent and continues to increase each year—a healthy sign.

Your Committee is very pleased to report that negotiations are moving along for a retirement program which will qualify under the Keogh Act. As you know, Keogh has been amended in such manner that increased benefits will become available on January 1, 1968. It is our hope and intention to recommend adoption of a highly desirable plan in sufficient time for it to become effective sometime this fall. You will be interested to learn that five of the finest retirement programs in existence have been reviewed by your Committee in an effort to provide the membership a plan which will appeal to everyone.

The Society's other plans appear to be doing nicely and no changes are contemplated in the foreseeable future. They are:

1. The basic sickness and accident program underwritten by the Commercial Insurance Company;
2. The supplemental sickness and accident program

underwritten by the Insurance Company of North America;

3. Our major hospital program underwritten by American Casualty;
4. The professional overhead expense program underwritten by American Casualty;
5. The accidental health, dismemberment and disability program underwritten by the American Home Assurance Company.

Although all new members are contacted by the various program administrators, there are undoubtedly others who would like to take another look at the programs and the benefits to be derived from enrolling. Descriptive brochures can be obtained by writing or calling State Society Headquarters.

Your Committee is proud of its role as guardian of the Society's various group plans. We try to keep a watchful eye on all of them and make sure that your interests are protected. This is perhaps our most important responsibility. Please, however, do not hesitate to let us have your thoughts and comments—not only on existing programs but on others you feel to be of value to the membership.

ANDREW F. GIESEN, M.D., *Chairman*

### Advisory with Medical and Allied Organizations

It has not been necessary for this committee to meet the past year.

We have continued our work with the Health Careers Program of the Virginia Council on Health and Medical Care. During the past year this program was presented in 130 schools to an audience of approximately 50,000 students. Requests for additional information have been received from 2,107 students, 134 of whom requested more data on medicine as a career.

This past year a new program, "Partners in Health Careers", has been initiated by the Virginia Council and 75 hospitals have appointed a hospital liaison officer to work with this group on this program.

WILLIAM T. CLARKE, M.D.  
LESLIE A. FAUDREE, M.D.  
WILLIAM B. BROWN, M.D.  
W. GRAHAM STEPHENS, M.D.  
ROBERT L. PAYNE, JR., M.D.  
J. SHELTON HORSLEY, III, M.D.

### Liaison to Confer with U.M.W. Welfare Fund

Another year has passed and your Liaison Committee has had no meetings, which we consider a healthy state.

One minor complaint was brought to the attention of the Chairman where some physicians in Buchanan County objected to the policy of the United Mine Workers of paying certain physicians for outpatient medical care for the Fund beneficiaries while not paying others. I contacted Dr. Koplin, Administrator of the Knoxville office, and arranged for him to meet with the Buchanan-Dickenson Medical Society. He and I attended the Society together and Dr. Koplin explained the situation satisfactorily to all concerned. Although they understood the situation, several did not agree with the policy. As this is a na-



tional policy and not a local area policy we felt that the United Mine Workers had a right to determine which physician would and which would not receive payment for services from the Fund for office medical care.

It has now been some six months since that meeting and we have heard no more complaints from the physicians. We do not know whether their names were added to the list of physicians approved for payment by the Fund or whether the situation is still as it was previously.

No other complaints have been brought up either from the Society members or from the United Mine Workers.

JAMES M. PEERY, M.D., *Chairman*

### National Emergency Medical Service

With the exception of some flash flooding in the southwest and a minor tornado in the vicinity of Suffolk, Virginia escaped disaster this past year. Preparation of plans against disaster, as well as training, continue. Training is routinely given for nurses, sanitarians, and other paramedical personnel. In the past year, three classes of hospital nurses, 140 dental students, and many other individuals have been trained in Disaster Medical care.

There are presently 43 packaged disaster (200-bed) hospitals in the State. Each of these hospitals is tied in with a community hospital for administrative and staffing purposes. At this time, many community hospitals are being requested to accept a Hospital Reserve Drug Inventory to be rotated through the community hospital, thus ensuring fresh, usable drugs at all times for the community hospital and the packaged disaster hospital assigned to it. This gives the community an additional 30-day supply of material. The State Department of Health has the responsibility for the HRDI unit contracts.

Medical Self-Help Training Program has now completed 1551 classes with 42,549 persons having been trained. It is expanding rapidly and will be in most of our public and parochial schools this fall.

In March, 1967, the state plan for Health Resources Management was approved at Federal level and plans are now under way to establish this plan at each local level in the state. Health resources include drugs, medical, surgical, dental and veterinary supplies, hospitals and laboratories, manpower, and such supporting supplies as are necessary.

W. R. SOUTHWARD, JR., M.D., *Chairman*  
CHARLES R. RILEY, M.D.  
E. CATO DRASH, M.D.  
MEYER I. KRISCHER, M.D.  
D. COLEMAN BOOKER, M.D.  
DAVID J. CRACOVANER, M.D.  
WILLIAM F. WELLER, M.D.  
LOUIS A. HOUFF, M.D.  
VIRGIL R. MAY, JR., M.D.

### Child Health

A meeting of the Committee on Child Health was held at Society Headquarters on April 6, 1967. "End Measles" campaigns were discussed as they have been conducted

in other states. The need for such a program in Virginia was presented in order to eradicate measles in the immediate future. A letter was to be sent from The Medical Society of Virginia to the secretaries of all component societies stressing the importance of measles campaigns and asking their cooperation on a local level.

It was agreed by the Committee that all adoptions should go through an accredited adoption agency. This proposed request is to be presented to the Council of The Medical Society of Virginia, and upon its approval, to be sent to the State Legislative Committee and the State Bar Association.

The Committee agreed to support the program of sex education in schools, and with approval of Council, a letter indicating the Committee's support is to be sent to the State Educational Director.

After discussion about the P.K.U. testing program in Virginia it was decided to endorse the recommendation of the Virginia Pediatric Society which has a committee investigating the P.K.U. testing procedure and regulations.

The increase of venereal disease in the State was noted, especially that involving those children eleven to sixteen years old. The Committee agreed to endorse the efforts of the State Health Department on Venereal Disease and urges all physicians to report any cases seen.

Child abuse was mentioned and there was some speculation about the effect the Virginia Child Abuse Law will have.

ROBERT H. ANDERSON, M.D., *Chairman*

### Rehabilitation

During the past year, the Rehabilitation Committee, which also serves as Medical Advisory Committee for the Department of Vocational Rehabilitation, met with the Commissioner and his Staff and we were acquainted by the Commissioner of the expanding program and its financing, and the role of the Advisory Committee in the expanding program, and received the thanks of the Commissioner for the assistance by the Committee to the Department.

The Committee advised the Department of Vocational Rehabilitation in accomplishing the following:

1. Revision of the surgical fee schedule.
2. Revision of the x-ray fee schedule.
3. Approval of exclusion of x-ray professional fees from the per diem of hospitals and the use of two schedules with unit values established by the American College of Radiology, one schedule for the private practitioner having his own equipment, and one schedule for professional fees where hospital equipment is used and the necessary renegotiation of hospital contracts to provide for this direct billing.
4. Reaffirmed the policy that ophthalmologists continue to provide the visual examinations on Rehabilitation clients.
5. Approved a fee for abstracting medical records by physicians in private practice.
6. Recommended that tonsillectomies, treatment of cancer in situ, and active arthritis would be handled on an individual basis using the eligibility requirements that the Department now has.

7. Approved payment of a fee for broken appointments.
8. Approved the establishment of a full time Medical Director for the Department and part time Medical Consultants in each of the area offices. We turned to members of Council of The Medical Society of Virginia to make recommendation of area consultants in their respective districts.
9. A subcommittee was appointed to continuously work with the Department on the problem of fees for services rendered by the hospital based specialists, this committee to deal with pathology, radiology, electrocardiography, psychiatrics, and pulmonary function, and bring recommendations to the full Advisory Committee.
10. Revised the dental fee schedule.
11. Revised the fee schedule for the services of general medical and internist examinations.

The members of the Advisory Committee continue to assist the Rehabilitation Councilors and have answered problems as they have developed.

JOSEPH BLALOCK, M.D.  
 GEORGE A. DUNCAN, M.D.  
 ROBERT J. FAULCONER, M.D.  
 G. S. FITZ-HUGH, M.D.  
 HUNTER S. JACKSON, M.D.  
 JOSEPH T. KAYE, M.D.  
 FRANK McCUE, III, M.D.  
 J. TREACY O'HANLAN, M.D.  
 CARNEY C. PEARCE, JR., M.D.  
 RENO R. PORTER, M.D.  
 WILLIAM RUSHER, M.D.  
 JAMES L. THOMSON, M.D.  
 DAVID WEBSTER, M.D.  
 ALEXANDER McCAUSLAND, M.D., *Chairman*

### Heart, Cancer, Stroke

The Committee on Heart, Cancer and Stroke has continued to be kept informed by the Governor's Advisory Committee on Regional Medical Programs (the new name for Heart, Cancer and Stroke activities). In the spring and early summer of 1967, meetings were held in Roanoke, Charlottesville, Richmond and Norfolk by representatives of the Governor's Committee to inform key personnel in the various areas of the State of the Regional Medical Programs. These meetings were attended by area hospital administrators, members of the respective Board of Directors, Chiefs of Services and similar key personnel. The historical background and broad general purposes of the program were discussed.

On June 11, 1967, Dr. Mack I. Shanholtz, Chairman of the Governor's Advisory Committee for Planning for Regional Medical Programs, announced the appointment of Eugene R. Perez, M.D., as Executive Director of the Program effective July 1, 1967. Dr. Perez, a graduate of McGill University and recently Medical Director of Petersburg General Hospital, brings to this office a broad background of continuing education and research experience, both in university centers and in community hospitals. Your Committee extends to him its heartiest congratulations and fullest cooperation.

In the months to come, it is expected that Dr. Perez will be working more intimately with local planning groups, pilot studies and the like, and coordinating them with other activities throughout the State. Local committees and individual members of The Medical Society of Virginia are encouraged to actively participate in the planning phases of the projects as they develop in their medical communities. Members of the State committee are available for advice in each congressional district.

F. A. WADE, M.D., *Chairman*

### Medical Education

The Medical Education Committee met with the Deans of the University of Virginia School of Medicine and the Medical College of Virginia, and five other representatives from each school, and considered the following agenda:

1. Problems of the State supported medical schools and how they can best be presented to the medical profession and State leadership:
  - (a) Financing
  - (b) Practical versus theoretical instruction
  - (c) How best to serve the practitioner in the State
2. Potentialities of the regional medical program.
3. Method of collection and eventual fate of fees for services rendered by the house staff.
4. Providing new and better utilization of physicians and allied health representatives.
5. Support of the practicing physician by the medical schools in
  - (a) Resisting further expansion of Medicare
  - (b) Containing the Heart, Stroke, Cancer program
  - (c) Access to students
  - (d) Supporting public relations programs
  - (e) Position on assignment and certification
6. The power struggle emerging between the Deans of the medical schools and the AMA for control of medical education.
7. The impact of federal money on the position of the Deans.
8. Directing students towards specialization.
9. Continuing education program in community hospitals
  - (a) The part they will play in Heart, Stroke, Cancer program
  - (b) The part the medical school will play
10. More instruction in ethics, economics, and politics.
11. Trend toward independent or elective study by medical students.
12. Education for family practice.
  - (a) More participation of GP's in medical education and GP staffing
  - (b) Responsibility of medical students toward
  - (c) Requirements
    1. Undergraduate
    2. Graduate



- (d) Program of retaining
- (e) Preceptorship and duration of

### 13. Millis Report

- (a) Impact on medical education

An action was approved for The Medical Society of Virginia to undertake a State-wide study of Virginia's health needs and that the Medical College of Virginia, University of Virginia, and State Department of Health be requested to cooperate in the study.

J. POWELL ANDERSON, M.D.  
 F. C. CARMINES, M.D.  
 GEORGE J. CARROLL, M.D.  
 ROBERT L. CASSIDY, M.D.  
 F. H. MCGOVERN, M.D.  
 JAMES M. MOSS, M.D.  
 THOMAS W. MURRELL, M.D.  
 RICHARD E. PALMER, M.D.  
 W. CALLIER SALLEY, M.D.  
 HUGH STOKES, M.D.  
 ALEXANDER McCausland, M.D., *Chairman*

### Mental Health

The Committee on Mental Health met on May 2, 1967, and June 28, 1967.

During both meetings, there was much discussion concerning the recodification of Title 37 of the Virginia Statutes, which chiefly involves laws pertaining to the mentally ill. The recodification is being carried on by the Code Commission, which was authorized by the 1966 General Assembly. With the approval of the Committee, representatives of the Mental Health Committee were appointed to meet with representatives of the Neuropsychiatric Society of Virginia for the purpose of studying all material available and offering such assistance and recommendations to the Recodification Commission as thought advisable.

The Chairman of the Mental Health Committee attended the thirteenth annual Conference of State Mental Health Representatives held in Chicago, February 24 and 25, 1967. The theme of the 1967 meeting was "The Mental Health Team" paying particular attention to the psychologist, social worker, psychiatric nurse and occupational therapist. Throughout the meeting the concept of the "Team" was generally acknowledged and recognized as a consequence of the changing environment for treatment of the mentally ill.

The scientific program for the 1967 annual meeting of The Medical Society of Virginia was discussed, and it was learned that the Neuropsychiatric Society of Virginia has assumed responsibility for a portion of the program on Saturday morning October 21. It was unanimously agreed that the committee should offer its services and assist the Neuropsychiatric Society in every possible manner. (As this report goes to press, it is learned that there will be two speakers representing the Neuropsychiatric Society of Virginia and the Mental Health Committee, but the titles of their papers have not been announced.)

The Committee, during their discussion of the Psychologists' Licensing Law enacted by the 1966 session of

the General Assembly, brought out the fact that a very definite flaw in the law has been revealed. This appears to center around the difference in the definition of psychotherapy in two sections of the law. The Mental Health Committee instructed its chairman to communicate with the Secretary of the Board of Medical Examiners offering the service of the Mental Health Committee in any way thought desirable by the Board of Medical Examiners. This was carried out as instructed by the Committee.

On April 8, 1967, another seminar entitled "Psychiatry for the General Practitioner" was held at Westbrook Psychiatric Hospital in Richmond. The seminar again was sponsored by the Virginia Academy of General Practice, The Neuropsychiatric Society of Virginia, and the Mental Health Committee of The Medical Society of Virginia. Each year there has been an increase in the attendance which seems to indicate the value and popularity of the seminars on the part of the general practitioner. The theme of the 1967 seminar was "Mental Depression". The moderate was Dr. Henry D. Lederer, Professor and Chairman of the Department of Psychiatry, Medical College of Virginia. Dr. Zigmond M. Lebensohn, Clinical Professor of Psychiatry, Georgetown University School of Medicine, spoke on conceptions and misconceptions in the clinical treatment of depression. Dr. T. George Bidder, Associate Professor of Medicine, Western Reserve Medical School spoke on drugs in the treatment of depressive reactions.

The Mental Health Committee had as its guests during the two meetings the following: Dr. Hiram Davis, Commissioner of Mental Hygiene and Hospitals, and Mr. Martin and Mr. Green representing the Virginia Medical Service Association. Dr. Davis discussed recodification with emphasis on some of the proposed changes in the code as it relates to admission of patients to the mental hospitals both public and private throughout the State of Virginia, and he also discussed some of the proposed changes in the code. Mr. Martin and Mr. Green discussed the new 7510 plan which had recently been offered to the public by the Virginia Medical Service Association (Blue Shield) and which had precipitated considerable unfavorable comment by physicians not participating in the Virginia Medical Service Association.

Dr. Arthur Centor, of the Virginia Psychological Association, was a dinner guest of the Committee. There was an informal discussion between members of the Mental Health Committee and Dr. Centor concerning the possible exchange in the future of information concerning avenues of mutual interest in the professional functioning of psychologists and psychiatrists.

The Committee unanimously agreed to urge The Medical Society of Virginia to recommend to the proper authority that a psychiatrist be considered for appointment to the State Board of Medical Examiners.

One request of the Mental Health Committee for action on the part of the House of Delegates of The Medical Society of Virginia is as follows: The Committee wishes The Medical Society of Virginia to recommend to the General Assembly of the State of Virginia and to the State Hospital Board that funds be provided in the next budget to employ qualified programmers and analysts for the Department of Mental Hygiene. Such action would implement recommendation #49 of the Virginia Mental Health



Study Commission in providing "a complete and accurate evaluation of the efficacy of departmental operations".

The Chairman wishes to express to the remainder of this Committee and to Robert I. Howard, Executive Secretary of The Medical Society of Virginia, his appreciation for their cooperation and assistance in the formulation of this report.

JOHN R. SAUNDERS, M.D., *Chairman*  
W. D. BUXTON, M.D.

ROBERT C. LONGAN, JR., M.D.

JOSEPH R. BLALOCK, M.D.

EMORY F. HODGES, JR., M.D.

SAMUEL S. MORRISON, M.D.

R. TERRELL WINGFIELD, M.D.

IRA L. HANCOCK, JR., M.D.

ROBERT B. NEU, M.D.

ROBERT H. THRASHER, M.D.

FRANK STRICKLER, M.D.

### Walter Reed Commission

The Garden Club of Gloucester has completed its project of plantings on the grounds of the Dr. Walter Reed Birthplace. Your committee, at the suggestion of The Garden Club of Gloucester, is arranging to have an old fashioned rick fence erected around the property.

A survey of the land to establish the property line for purposes of the tree and shrub plantings disclosed several discrepancies in the lines and these differences are being corrected by appropriate legal steps, with the approval of the Council of The Medical Society of Virginia.

Your committee has authorized in this fiscal year the expenditure of \$133.00 for cutting of grass and \$116.00 for survey fees.

A request has been made to Council for a special budget consideration for the money for the fence.

THOMAS E. SMITH, M.D.

STERLING N. RANSONE, M.D.

RAYMOND S. BROWN, M.D., *Chairman*

### Liaison to Nurse Examiners and Organized Nursing

Your committee got off to a fine start early in the year when Dr. John P. Lynch attended the Third National Conference of Physicians and Nurses held at Coronado, California, in February, bringing back to us the benefits of thoughts expressed and advancements made in bringing about a better understanding between the medical and nursing professions for improvement in patient care. His report in full was published in the June 1967 issue of the Virginia Medical Monthly.

On June 2, 1967 your chairman attended a "Conference on Associate Degree Nursing Program" in Roanoke, Virginia. Much information was gleaned relative to the potentialities of this comparatively new program which may well become one of the leading nursing programs in our State. The pitfalls which may be encountered were also discussed.

Our liaison on June 23, 1967, at the Society headquarters in Richmond was quite informative. The following choice bits of knowledge were obtained from the excellent report of Miss Mabel E. Montgomery, R.N.M.A., Secretary of the State Board of Nurse Examiners:

- (1) Professional nursing certificates renewed in 1966 were 17,221, an increase of 761 over 1965.
- (2) Total number of professional nurses employed in Virginia during 1966 were 12,693, an increase of 862 over the number employed in 1965.
- (3) Number of professional nurses licensed by examination in 1966 was 685, an increase of 6 over 1965. 78.5% practiced in Virginia following registration as compared to 81.5% in 1965.
- (4) Practical nursing certificates renewed in 1966 were 5,579, an increase of 295 over 1965. Of this group 4,123 were actively engaged in nursing in Virginia.
- (5) There are now 32 professional nurse training programs in Virginia; Five Baccalaureate Degree Programs, Twenty-two Diploma Programs, and Five Associate Degree Programs with a total enrollment as of December 31, 1966, of 2,606 students. There are 36 practical nurse training programs in Virginia with an enrollment as of December 31, 1966, of 1,053 students. Six of these programs were instituted during 1966.
- (6) During the past six years twelve professional nursing school programs have been closed. Eight of these were three year Diploma Schools; two were Associate Degree Programs, and two were Certified Tuberculosis Nursing Schools. The principal causes contributing to the closing of these schools were the inability to recruit students, inadequate clinical facilities, lack of qualified faculty, and certain problems connected with one facility operating two programs leading to registered nurses. During this same period of time eight new professional nursing schools have been established.
- (7) Considerable emphasis was placed on the need of "in hospital orientation" for Degree, and especially Associate Degree nurses. Also the "guidelines" for the delegation of certain functions to registered professional nurses should be studied and followed as closely as possible.

After considerable discussion the committee moved to make the following recommendations to the Council of The Medical Society of Virginia:

*First:* That the Council of The Medical Society of Virginia work with the Virginia Nurses Association and the Virginia Hospital Association in planning a one-day State conference having to do with the improvement of patient care in Virginia. National and State leaders would be invited to participate.

*Second:* That The Medical Society of Virginia endorse the sponsoring of a "Talk Shop" program proposed by Dr. Doris Yingling, Dean of the School of Nursing at the Medical College of Virginia, encouraging dialogue on an interdisciplinary basis to facilitate future cooperative planning efforts.

*Third:* Your committee further recommends that the Council study the Proposed Nursing Practice Act for the State of Virginia, and if it meets with their approval, refer it to the Society's Legislative Committee with the request that the Legislative Committee cooperate with the Virginia Nurses Association in every way possible.

Your committee unanimously endorses the splendid work being done by the Virginia Nurses Association and especially the State Board of Nurse Examiners. Their endeavor to produce more and better qualified personnel in the nursing profession is most gratifying. They are highly cognizant of the extreme demands that now exist and the anticipated future demands for more and better patient care. Their determination to meet this challenge is most inspiring.

Recognizing the splendid work done and the many years of distinguished service Dr. John R. Mapp, retiring chairman has contributed to the Society's Liaison Committee to Organized Professional Nursing; a motion was made, seconded and adopted, that a suitable letter of appreciation be sent to Dr. Mapp by the Executive Secretary, commending him for a job well done.

W. N. THOMPSON, M.D., *Chairman*

JAMES M. MOSS, M.D.

JOHN P. LYNCH, M.D.

BRADFORD S. BENNETT, M.D.

DANIEL N. MOHLER, M.D.

W. W. WALTON, M.D.

### Maternal Health

Two meetings of the Committee were held during the past year.

Arrangements have been completed, upon the request of the Committee, for a member of the staff of the Bureau of Maternal and Child Health—Miss Alice S. Holladay, Premature Nursing Consultant—to obtain pertinent information on maternal deaths from physicians, hospitals and if indicated, midwives. She will present appropriate identification, have the endorsement of the Committee, the State Health Department and the Committee believes of every member of the profession, in this continuing study.

The Committee recommended against a proposal that nurses who would be specially trained be allowed to collect vaginal pap smears, particularly from patients who are receiving anti-ovulation medication. In addition to the ethics involved, the important matter of legal responsibility would preclude this practice.

Proposed changes in the birth and fetal death certificates were reviewed and the committee's suggestions for consolidation and clarification of some questions were made to the Director of Vital Records and Health Statistics.

Silver Nitrate 1% is the prophylactic required by law to be instilled in the eyes of all newborns in the State of Virginia. A meeting was proposed between members of the Maternal Health Committee and Pediatric and Ophthalmology Society to discuss the matter of ophthalmia neonatorum prophylaxis and if deemed advisable, to develop recommendations to the State Board of Health relating to this matter.

Consideration was given to the matter of maternity beds being vacant in some hospitals while other areas of the hospitals are overfilled and also to thoughts frequently expressed that perhaps "clean GYN" cases could be admitted to OB departments. It was the committee's determination that there be no proposed change in the

present Maternity Hospital Law which requires that maternity patients and maternity staff be physically separated from all other patients and staff of the hospital.

In response to a request from the Council of The Medical Society of Virginia to the Committee on Maternal Health, the following action was taken by the Committee: the Committee recommends to the Council of The Medical Society the appointment of a committee composed of members of the various Medical Society Committees, the law profession and other interested professions and individuals to discuss if changes in the present abortion laws are desirable and if so, that the appointed committee make suggestions as to what these changes might be. Additionally, if the proposed committee should decide that a change in the present abortion law would be advantageous, the Maternal Health Committee proposed the following change: "that pregnancy may be interrupted to preserve the physical, mental and emotional health of the pregnant women."

There were 31 maternal deaths during the calendar year 1966 for a rate of 3.7 per 10,000 live births.\* All of these cases have been or are being studied and classified by the Committee.

CHESTER L. RILEY, M.D., *Chairman*

### Liaison to State Department of Health

A meeting of the Liaison Committee to the State Department of Health was held in Williamsburg on February 5, 1967. Attending were: Dr. George J. Carroll, Chairman; Dr. K. K. Wallace, President of The Medical Society of Virginia; Dr. Edwin L. Kendig, Jr.; Dr. W. Nash Thompson; and Dr. K. K. Wallace, Jr. Also in attendance were Dr. Mack I. Shanholtz, Dr. James J. Dunne and Dr. James B. Kenley.

The first matter to be discussed was PKU testing. It had been necessary for the Department of Health to set down certain regulations in this regard—particularly with reference to the time factor. Since the regulations require that testing be done within fourteen days following birth, some pediatricians have voiced their objections. The main objection is that many do not see the infant in the office until a period of four to six weeks has elapsed.

During the ensuing discussion it was brought out that many feel the 14-day requirement makes for good preventive medicine. It was also learned that many hospital administrators are not completely aware of their responsibilities and liabilities.

It was agreed that the Department of Health had acted wisely in requesting a recommendation from the Virginia Pediatric Society on this question. Dr. Dunne had already written the President of the Society in this regard, and had learned that the matter will be brought up when the Virginia Pediatric Society holds its annual meeting. The Committee agreed with Dr. Kendig that a follow-up letter to Dr. William P. Spencer, President of the pediatric group, would be in order, and the Executive Secretary of The Medical Society of Virginia was requested to publish the final decision of the Health Department in "News and Views". As of July 20 no report had been received from the Virginia Chapter,

\*In 1965, there were 27 deaths and a rate of 3.0.



American Academy of Pediatrics and The Virginia Pediatric Society on this matter.

The Committee was then advised that the American Academy of Pediatrics and the AMA Committee on Child Care had expressed the feeling that PKU testing should be performed in large central facilities where sufficient volume is available to insure dependability. Brought out was the fact that the Department of Health is responsible under Virginia law. Everyone agreed that it would be most helpful if duplicates were sent to the Department of Health in order that a central record file could be maintained. The Department would then contact the Laboratory directly if any doubt or discrepancy was found to exist. This in no way prevents private institutions and laboratories from performing the test if they so desire, but a duplicate should be sent to the State Health Department.

The Committee then turned its attention to an inquiry from the Norfolk area with reference to the fee paid physicians for manning well baby clinics. It was reported that a differential existed between the fees of Board-certified pediatricians and those considered qualified. It was agreed that payment should be made on the basis of whether a physician is Board "eligible" rather than "certified".

Title XIX—popularly referred to as "Medicaid"—then came in for its share of attention. Dr. Kenley discussed the basic features of the program—including its five basic services. The program will, for all practical purposes, bring together the various programs currently in effect for welfare recipients. The vendor approach will be used and the program must be uniform and statewide in its application.

The Committee learned that an Advisory Committee appointed by the Governor will soon meet for the third time. Its big job at the moment is to tailor a program to Virginia's needs. There seemed little doubt that the cost would exceed the twelve million dollars being expended at the present time. It was surprising to learn that a program as "complete" as that of New York could involve some 600,000 people—at a cost of one hundred million dollars. The New York experience has caused Congress to take a second look at "Medicaid"—with an eye toward establishing certain maximums.

GEORGE J. CARROLL, M.D., *Chairman*

EDWIN L. KENDIG, JR., M.D.

W. NASH THOMPSON, M.D.

K. K. WALLACE, JR., M.D.

### House

The current budget for building maintenance is \$6,800. Participating groups which aid in the upkeep of the Headquarters Building contribute an additional \$1,397. This totals \$8,197 available for maintenance.

Expenses, during the first 10 months, are as follows:

Fuel oil (5,286.3 gals.)	\$ 822.62
Utilities	1,003.88
Servicing furnace & air conditioning	347.06
Janitor service and supplies	1,378.54*
Miscellaneous supplies	59.31
Yard maintenance	944.94

\* Includes \$25.00 a month retirement.

ADT (burglary protection)	\$ 369.00
Property taxes	2,054.28
Miscellaneous	625.39**

TOTAL \$7,605.02

As matter now stand \$600.00 remains to cover expenditures for the final two months. Fortunately the usual major costs have already been met so your committee is sanguine that we can finish the year without going into the red.

H. J. WARTHEN, M.D., *Chairman*

### Revision of Constitution and By-Laws

Comments about revision of the Constitution and By-Laws were invited from the officers of The Medical Society of Virginia, former officers and others known to be interested last fall. Many opinions were expressed and many were conflicting. In view of the magnitude of a complete rewrite, the committee felt that some direction from Council was needed to see how Council felt about a revision and how extensive it should be.

At the council meeting, February 11, 1967, attention was called to the wide variation of the number of physicians in the various districts with the ninth district having about one hundred and thirty-one physicians and the third district about six hundred and ninety-eight physicians—each district being represented by one councilor; that the physical determination of district boundaries is and has been a serious problem; and that the sections on ethics and discipline do not encourage good liaison with the Board of Medical Examiners and do not take into account some of the recent changes in the Medical Practice Act.

Council was unable to say how they felt about revision and directed the committee to hold hearings to get information from the membership at large. In an effort to determine if there was sufficient interest of the membership to justify hearings, a letter was sent to the presidents of all of the component societies to be read to their members asking for comments about the need for revision and the way to do it. A notice of a similar nature inviting comment appeared in the May, 1967, Virginia Medical Monthly on page 325.

Seven component societies replied and five of these indicated that the subject had been referred to a special committee of their own for study and recommendation. The other societies indicated their interest in the revision particularly in regard to districting. At the time of this writing, the local committees have not reported. There have been no replies from individual members of the society regarding a position for or against revision.

The committee is considering holding a hearing at the annual meeting of the Society. The committee is still of the opinion that a major revision of the Constitution and By-Laws is necessary and continued efforts toward this goal should be made.

CLARK BATES, M.D.

R. H. FISHER, M.D.

CHARLES W. WHITMORE, M.D.

JOHN A. MARTIN, M.D., *Chairman*

\*\* Includes payment to VAMPAC for rug and draperies; book shelves and painting in V.M.M. office.



## National Legislation

Once again your Committee sponsored a luncheon at the Capitol in Washington for Virginia's Congressional Delegation. The scene was the Speaker's Dining Room—obtained for us this year by Congressman Broyhill of the Tenth Congressional District. There is no doubt whatever that Virginia physicians now enjoy their finest working relationship ever with our Congressional Representatives. It would be wonderful indeed if all members of The Medical Society of Virginia could attend and really get to know these fine and capable men representing us so effectively in the Congress.

We have tried to keep our entire delegation informed concerning medicine's position on proposed amendments to Medicare, Medicaid and other legislation with strong medical implications. Your Chairman has, from time to time, made a considerable amount of material bearing on these subjects available to certain key men.

Now that Medicare is a reality, physicians must strive to make it as palatable as possible—not only for the physician but for the patient as well. Weak spots must be identified and either strengthened or eliminated. Above all, physicians must never surrender their traditional right to bill their patients direct and must forever resist any and all attempts by any third party to interfere with their professional practice.

RICHARD E. PALMER, M.D., *Chairman*

## Advisory to Virginia Hospital Association

As this report is written, your Committee has already met twice with representatives of the Virginia Hospital Association, and a third is scheduled for September 12. We sincerely feel that a great deal of good has been realized from these sessions and hope that they will be continued on a regular basis. Perhaps a brief review of some of the matters considered will prove our point.

The problem of certification and recertification has been one of great concern for both physicians and hospital administrators. A thorough discussion of the pros and cons brought about a better understanding on the part of both groups. The result was a special issue of "News and Views" pointing out that the problem could best be resolved at the local level and urging the medical staffs of hospitals to seek solutions which physicians could live with in view of the strong stand of The Medical Society of Virginia opposing mandatory certification and recertification.

The so-called "Prangley Plan" for training certified bedside nurses was also discussed at length. Although The Medical Society of Virginia is officially on record as endorsing the Plan, your Committee listened with interest to the reasons why opposition exists on the part of the Virginia Hospital Association. It is quite possible that the matter will be brought again to the Society's House of Delegates for re-examination.

The problem of empty beds on OB floors was considered and hospital representatives expressed the hope that The Medical Society of Virginia would join in urging use of these floors for selected "clean" gynecological cases. The Committee on Maternal Health of The Medical Society of Virginia will be asked for its recommendation in this regard.

An example of the cooperation stemming from these joint sessions was the assurance of the hospital represen-

tatives that physicians investigating maternal deaths would be accorded every courtesy when the study of hospital records is required.

Another example is the manner in which The Medical Society of Virginia rallied to the defense of hospitals when it learned of the harassing tactics employed by some inspectors from the Office of Equal Health Opportunity of the Department of Health, Education and Welfare. The Society discussed this situation at length with Virginia's Congressional delegation and received assurance that every effort would be made to correct this evil.

The Medical Society of Virginia also cooperated with the Virginia Hospital Association by obtaining a physician to assist in a preliminary accreditation survey of a Galax hospital. It is our understanding that the survey was quite helpful to the hospital in its preparation for the official survey of the Joint Commission on the Accreditation of Hospitals.

Other matters discussed during the year had to do with hospital licensure, proposed amendments to Virginia's Nurse Practice Act, direct billing under Vocational Rehabilitation, proposed amendments to Medicare, and implications of the Comprehensive Health Facilities Planning Act as passed by the 89th Congress.

As one can see, this Committee has enjoyed an active and profitable year. We sincerely believe that through its efforts, and those of the VHA Committee, The Medical Society of Virginia and Virginia Hospital Association are working more as a team than at any time in the past. This is extremely important during these days of change and adjustment.

JAMES ASA SHIELD, M.D., *Chairman*

RICHARD E. PALMER, M.D.

ALEXANDER MCCAUSLAND, M.D.

DENNIS P. MCCARTHY, M.D.

JOHN T. MYLES, M.D.

## Advisory to State Department of Welfare

Your Committee found itself operating on a "stand-by" basis during the past year. The reason was that Virginia has for some months been at an "in between" stage as far as its welfare programs are concerned. With Medicaid (Title XIX) just around the proverbial corner, it has been difficult for welfare officials to make any policy decisions of a far reaching nature.

As this report is being written a Special Commission, appointed by the Governor, is hard at work on a proposed Title XIX Program for Virginia. The Commission's report will undoubtedly be the basis for action by the General Assembly when it convenes in January 1968. All signs point to a Title XIX Program becoming effective in Virginia in July of next year, and it is quite likely that our Committee will be requested to assist the Department of Welfare in its effort to solve those problems which always plague a new program of such magnitude.

This Committee has been asked to see what can be done about the patient who qualifies for medical assistance but who owns real estate, or has other assets, of considerable value. Here again we have a situation where it is almost impossible to take any long range action. After Virginia's version of Title XIX is made available for all to see, we should be in a better position to seek correction of obvious weaknesses in the various programs.

ROBLEY D. BATES, JR., M.D., *Chairman*

# *Woman's Auxiliary . . . .*

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## **PRELIMINARY PROGRAM**

**of the**

## **FORTY-FIFTH MEETING**

### **WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA**

**October 19-21, 1967**

**Marriott Twin Bridges Motor Hotel  
Arlington, Virginia**

A cordial invitation is extended to all members of the Woman's Auxiliary, their guests and the wives of physicians attending the convention, to participate in all the social functions and to attend the general meetings of the Auxiliary.

#### **Thursday, October 19**

4:00 P.M.—Pre-Convention Board Meeting. All State officers, directors, committee chairmen and county presidents are expected to attend.

Mrs. Ralph Landes, President, presiding.

7:00 P.M.—VAMPAC Dinner—Persian Room. All ten Virginia Congressmen and the two Virginia Senators will be honored guests.

#### **Friday, October 20**

9:00 A.M.—Formal Opening of the Forty-fifth Annual Convention of the Woman's Auxiliary.

Mrs. Ralph Landes, President, presiding.

12:30 P.M.—Luncheon. Honored guest speaker—Mrs. John M. Chenault, National By-Laws Chairman.

3:30 P.M.—Post-Convention Board Meeting.

All 1967-68 State officers, committee chairmen, county presidents and presidents-elect are members of this Board and are urged to attend.

Mrs. Daniel Anderson, President, presiding.

#### **Saturday, October 21**

10:00 A.M.—Workshop—"The Package Deal".

Board Members and all interested in the Auxiliary are urged to attend, especially local county chairmen.

Mrs. Daniel Anderson, President, presiding.

11:30 A.M. to 5:00 P.M.—Tour of old homes of Alexandria, including transportation by bus to and from Alexandria, and afternoon tea.

6:30 P.M.—Cocktail Party—The Medical Society of Virginia.

7:30 P.M.—Annual Banquet with entertainment and dancing.

A flyer, with attached card, is being sent to all members of The Medical Society of Virginia. This card returned to us with your interests indicated will greatly

help in planning an instructive as well as enjoyable convention for you.

MRS. MICHAEL PUZAK  
*Convention Chairman*

## **National By-Laws Chairman to Be Guest at Annual Meeting.**

The meeting of the Auxiliary to The Medical Society of Virginia, to be held in Arlington, October 19-21, will be honored by the visit of Mrs. John M. Chenault of Decatur, Alabama, National By-Laws Chairman.

Mrs. Chenault's long interest in and devotion to Auxiliary affairs are best reflected in the list of positions she has held, including county auxiliary president, Alabama State president, president of the Auxiliary to the Southern Medical Association, national program chairman, Today's Health chairman, rural health chairman, and positions on the finance, nominating and structure review committee of her State.

A native Alabamian and a graduate of the University of Alabama, where her father is professor emeritus of organic chemistry, she has always been a dedicated worker in her community. She has served with distinction in the D.A.R., the League of Women voters, the Woman's Chamber of Commerce, the County Mental Health Association, the Girl Scouts, the Red Cross and the Decatur Safety Council, all this with the care of her family of four girls and one boy.

Our meeting will be greatly enlivened by her presence, advice and counsel.

MRS. MICHAEL A. PUZAK  
*Convention Chairman*

## **44th Annual Convention Woman's Auxiliary to the AMA.**

A visit from two Vietnamese students, a talk by a noted proponent of sex educa-



tion and a "Little Workshop" for state presidents and presidents-elect were outstanding features of the 44th annual convention of the Woman's Auxiliary to the American Medical Association. The meeting, held at Atlantic City's Shelburne Hotel, June 18-22, attracted a registration of 1,052 physicians' wives.

Auxiliary President Mrs. Asher Yaguda presided over the sessions. The Vietnamese students, both mothers of three-year-old daughters, visited the convention on Monday and were available to meet their auxiliary sponsors. The two young women were "adopted" by the auxiliary for their short-term, specialized medical training at the Georgetown University School of Medicine in Washington, D.C. Part of their living expenses for their three-month training is being paid for by auxiliary sponsors.

Dr. Mary S. Calderone, director of the Sex Information and Education Council of the United States, spoke during the Tuesday morning session on "Sex Education: Goals and Means." Other speakers included Anne R. Somers, research associate, industrial relations section, Princeton University; and Charles L. Hudson, M.D., 1966-67 AMA president who spoke on "The Women—Bless 'Em" during the annual luncheon honoring auxiliary past presidents and AMA officers, trustees and their wives.

A highlight of the convention was the "Little Workshop," a two-way discussion led by national committee chairmen on auxiliary programs.

The auxiliary's annual contribution to the AMA Education and Research Foundation—this year amounting to \$384,649.48—was presented during the convention. Six state auxiliaries receiving awards of merit for raising the largest amounts in their membership categories were Wyoming, Maryland, West Virginia, Tennessee, Indiana and California.

Miss Margaret Wolfe, executive secretary of the auxiliary, was made an honorary member of the organization in recognition of 25 years of service in her position.

Other convention highlights were the presentation of the Health Mobilization Award to the Robeson County, N. C., auxiliary for its work in training citizens in medical self-help; and a Sunday evening reception honoring Mrs. Yaguda and Mrs. Karl F. Ritter, president-elect.

Mrs. Ritter presented her inaugural address on Wednesday, June 21, following her installation as president. Present for the occasion were Dr. Milford O. Rouse, newly installed AMA president, and Mrs. Rouse. Mrs. Ritter concluded an inspiring message by urging all to call upon their senses—sense of loyalty, sense of dedication, sense of cooperation and, above all, the sense of humor. All of these "senses" work together to produce the ultimate sense of accomplishment.

Other officers installed were Mrs. C. C. Long, Ozark, Ark., president-elect; Mrs. Howard Liljestrand, Honolulu, Hawaii, first vice president; Mrs. Robert F. Beckley, Eastern regional vice president; Mrs. John D. Dickie, Toledo, Ohio, North Central vice president; Mrs. R. C. L. Robertson, Houston, Tex., Southern regional vice president; Mrs. Clare W. Johnson, Phoenix, Arizona, Western regional vice president; Mrs. Erle E. Wilkinson, Nashville, Tenn., constitutional secretary; Mrs. E. R. W. Fox, Coeur d'Alene, Idaho, treasurer; and directors, Mrs. George W. Gasser, Logan, Utah; Mrs. J. Murray Kinsman, Louisville, Ky.; Mrs. Jost J. Michelsen, Boston, Mass.; Mrs. Paul E. Rauschenbach, Paterson, N. J.; Mrs. Willard C. Scrivner, East St. Louis, Ill., and Mrs. Herbert J. Ulrich, Buffalo, N. Y.

Serving their second year as directors are Mrs. Thomas Anton, Mrs. Norman H. Gardner, Mrs. Amos N. Johnson, Mrs. Burton E. Kintner, Mrs. W. A. Merritt and Mrs. Glenn T. Scott.

Delegates attending from Virginia were Mrs. Pinson Neal of Richmond, Mrs. George Kelly of Pulaski, Mrs. Daniel Anderson of Norfolk, and our president, Mrs. Ralph Landes, who presented the State report for our twenty-four auxiliaries, and 1,521 total membership.

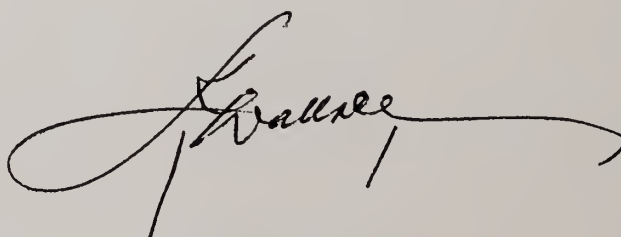


## *The President's Page . . . .*

THE SOLICITATION for funds for the A.M.A.-E.R.F. is now in progress. If you haven't contributed, you should start; if you have done so in the past, you should continue the habit. During the past ten years, this fund has helped 19,000 medical students; it has loaned an excess of 35 million dollars to students, interns and residents; and it has contributed directly to our two State Medical Schools almost a quarter of a million dollars. Medicine, like the Navy, takes care of its own! In no other area can we be so filled with pride, yet contributions have fallen off considerably in the last two years.

The public news carriers are deluging us seeking information regarding our status concerning this abortion law controversy. Let's try to indicate our present position in an orderly, reasonable manner.

1. Our present State statute is not only antiquated but is occasionally disregarded.
2. Attempting changes and then clarification of the changed law will generate a tremendous quantity of controversy, and medicine can easily be maneuvered into "the fall guy" role.
3. In both Colorado and North Carolina, the medical profession has acted only in an advisory capacity. The debate has been conducted mainly by legal, interested, and religious lay groups, as it should be.
4. We are not sure just where we stand on this subject. We are attempting to find out by means of a questionnaire directed to specific interested groups within our own and medically allied organizations.
5. Your present state officers consider it intolerable and abhorrent if this might so terminate that we are considered a clique of "legalized abortionists". We will vigorously oppose any legislation that could seemingly so categorize us. Our attitude, by the same token, is one of favor in need for legislative change.
6. We want it clearly understood that those who oppose any change for religious or moral reasons have our strong support. Furthermore, we will object to any statute which holds us liable if we refuse to do therapeutic abortions.

A handwritten signature in dark ink, appearing to read 'K. K. Wallace', with a large, sweeping flourish extending to the right.

K. K. WALLACE, M.D.  
*President, The Medical Society of Virginia*

## Who Will Come Forward?

A SYSTEM of government medicine has been established, and we have been assured on the highest authority that full and complete coverage for all is planned for the near future. This is the reality. It seems unlikely that there will be a reversal of the current socio-economic philosophy which appears to have wide appeal despite the discontent of many of us.

Organized medicine and its leadership were unable to oppose these events in any effective way and now seem equally lacking in the capacity to direct and control the administration of Federal medicine in areas in which it is legitimately concerned. If doctors were ineffectual in these endeavors, are they then at last willing to reply in a forthright manner to the threat to medicine's collective image, embodied in the deliberate campaign of character assassination directed against the profession?

The news media prematurely have publicized scientific advances with inevitable disappointment and confusion. They have pressed us relentlessly about a few real, and numerous fancied grievances. They have advanced opinions as facts, invited malpractice suits, and generally stirred up confusion and distrust. Politicians have been aggressive in causing us injury as a precondition to achieving their goal of taking over medicine. Recently we have seen the arrival of the highly lucrative best seller on "How To Hate Your Doctor." One can only wonder at the motivation of members of our own profession who have given aid and comfort to these people.

The utterances and accusations of our detractors have been raucous, perverted and dishonest. The few mild squeaks of protest (no doubt this jeremiad could qualify, also) from those of us who love our profession have been termed "emotional bombast" by apologists in our midst, who publicly exhort us to even more intense self-examination and self-criticism at a time when these commodities at least, seem to be in oversupply.

The practicing physician is rapidly becoming a citizen with a very special status. That it is becoming a not particularly attractive one is indicated by some expressions of alarm about physician procurement. The president-elect of a medical society of great prestige recently voiced

concern about the withdrawal of doctors from actual practice to engage in teaching, research, and other activities not connected with patient care. He can be assured that there will be no reversal of this trend as long as every force and influence is directed toward making the private practice of medicine disagreeable, dangerous, regimented, and lacking in dignity.

We have our warts, to be sure; we are taking care of them as best we can, and indeed with all speed. With all our faults, we as a profession have less to apologize for than any other group in our society. Our machinery for self-discipline, however imperfect, exceeds that of any other organized group.

Doctors should realize that appeasement has failed, and that the policy of dignified silence has been given a long and fair trial with an outcome that could best be described as a disaster.

Does not the profession have the right to expect from its leaders, the faculties of its medical schools, a declaration, loud and clear, that their product—their graduates, are not evil, money-grubbing monsters, but are honorable, upright, dedicated, competent men? Will they not echo Harvey Cushing's words on surgical judgment, that are still valid and *apply to all therapy*? "Surgical judgment, indeed, is a more or less inspirational quality which is variable and elusive, all surgeons being conscious of having it in hand on some occasions, and losing it on others. It is a good deal like a game, which even the best and most consistent player fozzles for some unaccountable reason at certain times. The public must understand that it must select its own physician wisely, have confidence in him, and know that he is doing the best he can, and that the result obtained is the best to be obtained under the circumstances."\*

When the spirit of mutual respect and trust within the profession has been restored, when the revolting dishonesty, savage malice, and unspeakable arrogance and impudence in the attacks made upon us in the news media are met with reasonable rebuttal, but made in strength and with a ring and a roar, then, and then only will we have made a beginning toward the restoration of our ancient honor.

It is our clear duty to set the record aright!

Who among the leaders of our profession will come forward to do this?

WILLIAM H. KAUFMAN, M.D.

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\*Fulton, John.: Harvey Cushing. Springfield, Illinois, Thomas, 1946.



## The Pageant of Medical History (continued)

### (C) WHERE AND WHAT

*The grandest of all laws is the law of progressive development.—Under it, in the wide sweep of things, men grow wiser as they grow older and societies better.*

CHRISTIAN NESTELL BOVEE

SIMILARLY as progress along various lines has resulted from certain key discoveries, developments or stimuli—the internal combustion engine, for example—so has medicine progressed incident to certain key factors and in response to pressing needs. One such need has been that imposed by war.

That war or preparation therefor has always been a significant stimulus to medical and surgical progress is a well recognized fact. Following World War I the distinguished British surgeon, Sir Thomas Clifford Allbut (1836-1925) observed: "I would remind you again how large and various was the experience on the battlefield and how fertile the blood of warriors in rearing good surgeons."

Suffice it to say that civilian populations the world over have been the lasting beneficiaries of many discoveries and developments that had their inception in military medical research, or accomplishments that were prompted and inspired by military action and needs.

It would appear worthy of note in this connection that it was the observation of the carnage of three battles on three continents by three people (two women and one man) of different nationalities, within a period of approximately eight years, that led to the origin of three institutions or organizations of enormous consequence to the human race in every land and in every clime, and from the palaces of the rich to the hovels of the most destitute:

(1) Florence Nightingale (1820-1910), an Italian by birth but British by adoption, upon witnessing the gruesome aftermath of the Battle of Balaklava during the Crimean War in 1854, dedicated the ensuing 56 years of her life to founding and fostering the profession of nursing.

(2) Henri Dunant (1828-1910) of Switzerland, after having gazed upon the maimed and dying at the Battle of Solferino in Italy in 1859, initiated the movement which grew into the International Red Cross Society.

(3) Upon witnessing the awesome toll of life and limb at the Battle of Antietam during our Civil War in 1862, a sense of humane consciousness was aroused in the sensorium of Clara Barton (1821-1912), an American (Oxford, Massachusetts), that led her to become a prime proponent and first President of the American Red Cross Society.

It is moreover interesting to note in passing that Florence Nightingale, Henri Dunant and Clara Barton were all born within eight years of each other, i.e., 1820, 1828, and 1821 respectively, and that all three died within a space of two years apart. Florence Nightingale and Henri Dunant both died in 1910. Florence was 90 years old and Henri Dunant 82. Clara Barton died in 1912 at the age of 91.

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Continued from August issue of the Virginia Medical Monthly.

And so, to summarize: The most important contributions to medicine during the past slightly less than three and a half centuries, listed in the order of their estimated importance, have been (1) the discovery of the circulation of the blood, (2) the discovery of germs as the cause of infectious diseases, (3) the discovery of smallpox vaccination and the principle of immunization emanating therefrom, (4) the introduction of insulin in the treatment of diabetes, (5) the discovery of ether as a general anaesthetic, (6) the use of the ligature in surgery, (7) the discovery and utilization of the x-ray, (8) the discovery that many important diseases are borne by insects, flukes, snails and animals other than man (also by birds), (9) the cause and prevention of nutritional deficiencies, (10) the synthesis in 1910 of "606," (11) the introduction of the sulfa drugs, the antibiotics, hydrocortisone, and more recently still of ioniazid and certain other drugs which together have brought about a tremendous reduction in the incidence of and invalidism due to tuberculosis, (12) the invention of the microscope and the stethoscope.

Reference to the genesis and development of the microscope, and the part played by Leeuwenhoek—probably aided and abetted by Spinoza in its evolution has been made in the second installment of this historical review, and (13) certainly the recognition of the importance of an intelligent concept of the role and manner in which chemistry affects the body economy.

Medical history records report that the stethoscope was invented in 1819. In the public mind the hallmark of the physician, the stethoscope is regarded as one of the essential implements in the doctor's assortment of investigative and diagnostic aids. It is almost never out of order and its field of usefulness is wide.

During the past half century the shift in medical emphasis has been significantly striking. The major emphasis in medical schools five decades ago was upon diagnosis and treatment of medical and surgical conditions. Practically all of the instruction this commentator received in psychiatry came during his senior year as a medical student when his medical class visited the insane asylum in Staunton, Virginia, for a part of one afternoon, and there virtually all of the lecturing was done by the inmates the class was privileged to see and hear. Psychiatry has now come to be recognized as a separate major division or department in the realm of medicine. Diagnosis and disposition is no longer the chief end with respect to psychiatric patients as it was not so long ago. Treatment with intent to cure has become as much the objective of the psychiatrist as it has been that of the physician and surgeon.

During the medical school training of this writer precious little time or attention was paid to the prevention of any type of illness. Yet it was the experts in the field of preventive medicine who were responsible for an increase of more than 20 years in life expectancy in the United States during the first half of the 20th century—and during the past 15 years this figure has shown a gradually increasing trend.

By reason of the efforts and understanding of the Public Health and Preventive Medicine experts, typhoid fever, a frequent and relentless killer within the memory of the author of this editorial, is rarely encoun-

# What's all the fuss about bactericidal?

The ultimate aim in antibiotic therapy is to contain the bacterial colony and eliminate infection. Both 'cidal' agents and bacteriostatic DECLOMYCIN achieve this goal. DECLOMYCIN inhibits susceptible pathogens by stopping their growth; cidal agents affect the pathogens only while they are growing.

Though the two mechanisms differ, the end result is the same—containment of the infecting organism. *However, a very important attribute of any antibiotic is its potency against a broad range of pathogens.* DECLOMYCIN not only offers broad-spectrum potency, but high serum and tissue levels with persistent activity against tetracycline-sensitive organisms. Therapeutic benefits continue for 1-2 days after dosage stops to help prevent relapsing infection.

These are the reasons why so many doctors make DECLOMYCIN their basic broad-spectrum antibiotic. At last count, one billion doses had been administered since its introduction, and the number keeps rapidly growing.

**DECLOMYCIN<sup>®</sup>**  
**DEMETHYLCHLORTETRACYCLINE**

 Lederle

Prescribing information on next page.



For a wide range of everyday infections—respiratory, urinary tract and others—in the young and aged—the acutely or chronically ill.

## True broad spectrum

DECLOMYCIN Demethylchlortetracycline should be equally or more effective than other tetracyclines when the offending organisms are tetracycline-sensitive.

**Contraindication:** History of hypersensitivity to demethylchlortetracycline.

**Warning**—In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated, and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photo-allergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort. Necessary subsequent courses of treatment with tetracyclines should be carefully observed.

**Precautions**—Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

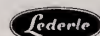
**Side Effects**—Gastrointestinal system—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes. A rare case of exfoliative dermatitis has been reported. Photosensitivity; onycholysis and discoloration of the nails (rare). Kidney—rise in BUN, apparently dose related. Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. Teeth—dental staining (yellow-brown) in children of mothers given this drug during the latter half of pregnancy, and in children given the drug during the neonatal period, infancy and early childhood. Enamel hypoplasia has been seen in a few children. If adverse reaction or idiosyncrasy occurs discontinue medication and institute appropriate therapy.

**Average Adult Daily Dosage:** 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products. Treatment of streptococcal infections should continue for 10 days, even though symptoms have subsided.

**Capsules:** 150 mg; **Tablets:** film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.

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**DEMETHYLCHLORTETRACYCLINE**

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American Cyanamid Company, Pearl River, New York



tered in the United States today. Tetanus, diphtheria, scarlet fever and the diarrheal diseases of children are no longer dreaded scourges. Look in the cemeteries! The older cemeteries are studded with tombstones marking the graves of infants and young children. In newer cemeteries such markers are rare, and it is mainly because the Public Health and Preventive Medicine experts, the least glamorous and most unsung heroes in the profession of medicine have made it so. It has been this lowering of infant and child mortality that has accounted for the lengthening of the over-all average life expectancy at birth, and not because there has an appreciable extension of the life span of individuals, *per se*. The eradication of malaria from the Panama Canal Zone, almost all of the United States and its curtailment throughout a large part of the world stands as a monument to preventive medicine. It was the conquest of malaria in Panama that made the construction of the Panama Canal possible. The inability of the French to cope successfully with this disease caused that nation to fail in its efforts to build or dig a canal across the Isthmus of Panama. It is altogether appropriate to point out, however, that according to the best informed World Health Organization sources, malaria is still the number 1 killer of the world at large.

We have become accustomed to think of heart disease as the leading cause of death. In the United States, this is true, but the death rate from malaria in southern Asia, Africa and certain other areas is of such magnitude as to maintain its distinction of being the chief cause of death, world-wide. Efforts going forward under the auspices of the World Health Organization will ere long, it is hoped and believed, radically reduce the incidence of malaria throughout the world. It seems reasonable to expect that by the end of another decade malaria will have been conquered to an extent comparable with that of cholera and of the plague.

Preventive Medicine, in the commonly accepted sense, has, of course, not been responsible for all of the changes in the complexion of the medical situation. Pneumonia, for example, called by Doctor Osler, "The Captain of The Men of Death", has, through the use of penicillin and other antibiotics, been reduced to the status of a minor menace.

Many, many concepts have changed; many, many new concepts have been introduced during the past 50 years. It has, as Doctor John Chalmers Da Costa of Philadelphia observed more than half a century ago however, not always been easy to distinguish between what was new and what was a "cold storage egg" being offered for sale as new, and that truism has continued right down to the present day. Doctor Da Costa has not been alone with his difficulty in trying to differentiate between "fragments of eternal truth and nebulous emanations of chaos."

It will be recalled that blood letting was employed during the era of Eristratus of the school of medicine at Alexandria, Egypt, 300 B. C. That it was abandoned during the same era seems highly probable. When it next came into vogue isn't clear, but by the time of Benjamin Rush during the latter half of the 18th century it had become a common practice. It figured prominently in the last illness of George Washing-

ton. Whether George Washington died in spite of his having been heavily bled or as a result of it is, in fact, still a moot question.

One radical departure from an old custom is that pertaining to the practice of early ambulation following surgical operations, childbirth, etc. which came to the fore about 20 years ago and currently is still, by and large, popular.

A great deal has been learned about a great many conditions. Many conditions that used to be treated more or less empirically are now treated with an exactitude that could stem only from a thorough understanding of the cardinal aspects of a malady. Coronary heart disease is a condition in point.

However, the changes that have gone on have by no means been confined to the strictly scientific side of the profession of medicine. A most conspicuous change has been in the sphere of economics—the cost of medical care—with the largest increase in hospital room rates, group hospitalization premiums, physician and dentist fees. Where there used to be only two parties involved in an illness, i.e., the doctor and the patient, there now has entered the act a third party in the person of a representative of an insurance organization, and finally the chimerical shadow of the Federal Government has come to hover over the practice of medicine in America.

H. LAMONT PUGH, M.D.

## The 1967 American Medical Directory

THE TWENTY-FOURTH EDITION of the American Medical Directory has just appeared and consists of three parts. The first volume contains an alphabetical index of all physicians. The actual number is not mentioned, but 857 pages, each containing five columns, are required to list the physicians whose names begin with E. Lindeman Aaberg, of Los Angeles, California, and conclude with Zenon B. Zyznomysky of Binghamton, New York, whose surname, incidentally, contains only one vowel.

Part Two includes physicians in the various branches of the federal services, which emphasizes how many medical men are now on the governmental rolls. This volume also has a geographical register of physicians from Alabama through Minnesota. Part Three contains those who live in the remainder of the states and a surprising number of physicians who are on temporary foreign status.

The 1967 American Medical Directory contains more data about more physicians than has ever been compiled and condensed into 3400 pages. Each part fortunately contains identical explanatory codes and key numbers which, of necessity, have taken the place of the narrative biographical sketches which were used in A.M.A. Directories until recent years. These handsome books are sturdily bound and should hold up despite the rough usage they doubtless will receive in medical libraries throughout the world. It is hoped that individual physicians have not been deterred by the price of this Directory (\$60.00 in U. S.) for the vast information in these three volumes will be referred to many times by the physicians of America.

H.J.W.



### Calendar of Events

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EIGHTH ANNUAL CARDIOVASCULAR SYMPOSIUM—Sponsored by Tidewater Heart Association—Golden Triangle Motor Hotel—Norfolk—September 15-16, 1967.

"APPROACH TO CLINICAL PROBLEMS"—A Continuing Education Course presented by the University of Virginia School of Medicine—Charlottesville—September 28-29, 1967.

"EDUCATION FOR THE POTENTIALLY COMPETITIVE CHILD—THE HANDICAPPED IN THE EDUCATIONAL SETTING"—Conference Sponsored by the Virginia Council on Health and Medical Care with the cooperation of the Nemours Foundation—Hotel Roanoke—Roanoke—October 2-3, 1967.

TENNESSEE VALLEY MEDICAL ASSEMBLY—Memorial Auditorium, Chattanooga, Tennessee—October 2-3, 1967.

AMERICAN SOCIETY OF ANESTHESIOLOGISTS—Annual Meeting—Las Vegas, Nevada—September 29-October 3, 1967.

NATIONAL CONFERENCE ON PHYSICIANS AND SCHOOLS—LaSalle Hotel—Chicago—October 4-7, 1967.

15TH ANNUAL SEMINAR—Sponsored by Bluefield Sanitarium, Bluefield, West Virginia, Stevens Clinic, Welch, West Virginia and Clinch Valley Clinic, Richlands, Virginia—Seminary will feature speakers from Medical College of Virginia, Duke University Medical Center, Medical College of Georgia, and University of Indiana Medical Center—Bluefield Country Club—afternoon and evening of October 12, 1967.

"ANXIETY AND DEPRESSION"—Post Graduate Seminar—Richmond Memorial Hospital—Richmond—October 12, 1967.

"WILLIS ORATION"—Lecturer will be Dr. Douglas Clark, Glasgow, Scotland—Especially for Johnston-Willis Staff and members of the Richmond Academy of Medicine—Country Club of Virginia—Richmond—6:00 p.m., October 13, 1967.

ANNUAL MEETING OF THE MEDICAL SOCIETY OF VIRGINIA—Marriott Twin Bridges Motor Hotel—Arlington—October 19-22, 1967.

"PREVENTION AND MANAGEMENT OF COMPLICATIONS IN SURGICAL PATIENTS"—A Continuing Education Course arranged by University of Virginia School of Medicine—Charlottesville—November 3-4, 1967.

MCGUIRE LECTURE SERIES ON GASTROENTEROLOGY—Dr. Franz J. Ingelfinger, Lecturer—Medical College of Virginia—Richmond—November 9-10, 1967.

NATIONAL CONFERENCE ON UTILIZATION REVIEW—Sponsored by American Medical Association—Shamrock-Hilton Hotel—Houston, Texas—November 25, 1967.

9TH NATIONAL CONFERENCE ON THE MEDICAL ASPECTS OF SPORTS—Hotel America—Houston, Texas—November 26, 1967.

CLINICAL CONVENTION OF AMERICAN MEDICAL ASSOCIATION—Houston, Texas—November 26-29, 1967.

## **New Members.**

The following new members were received into The Medical Society of Virginia during the month of July:

John Roger Casey, M.D., Woodstock  
Donald P. Delorme, M.D., Alexandria  
Thomas Edward Donnelly, M.D.,  
Roanoke  
Adrian Smith Lineberger, Jr., M.D.,  
Fairfax  
Donald Lee Martin, M.D., Richmond  
John Milton Miller, Jr., M.D., Roanoke  
Donald Lloyd Reed, M.D.,  
Fredericksburg  
Zabih Maj Dean Sadighian, M.D.,  
Burkeville  
Denys Sheriff, M.D., South Boston

## **Dr. George J. Carroll,**

Suffolk, has been appointed by Governor Mills E. Godwin, Jr., as a member of the State Board of Medical Examiners. He succeeds the late Dr. A. Tyree Finch.

## **Dr. Alexander McCausland**

Has been named to the Roanoke City Board of Health, succeeding the late Dr. E. G. Gill.

## **Dr. Puzak Receives Welburn Award.**

Dr. Michael A. Puzak, Arlington, has been awarded the Welburn award by the Arlington County Medical Society. This award is given annually to the individual who has contributed most to the affairs of his medical community.

## **Dr. Garst Retires.**

After more than forty years of service to Catawba Sanatorium, Dr. Lula Garst has retired. She began her work at the Sanatorium in 1926.

## **Dr. Weems Retires.**

Dr. Rachel Weems, director of physical medicine at the Woodrow Wilson Rehabilitation Center, Fishersville, has retired after thirteen years of service. She will be retained in a consultative capacity.

## **Dr. Eugene R. Perez,**

Executive Director of the State's regional medical programs designed to improve diagnosis and treatment of heart disease, cancer, stroke and related diseases, has opened a temporary office in the Richmond Academy of Medicine Building at 1200 East Clay Street, Richmond. His telephone number is 643-6631.

## **Dr. Paul D. Doolan,**

Recently of Washington, D.C., has joined the Medical College of Virginia as an associate dean and professor of medicine.

## **Dr. Grimaldo Carvalho,**

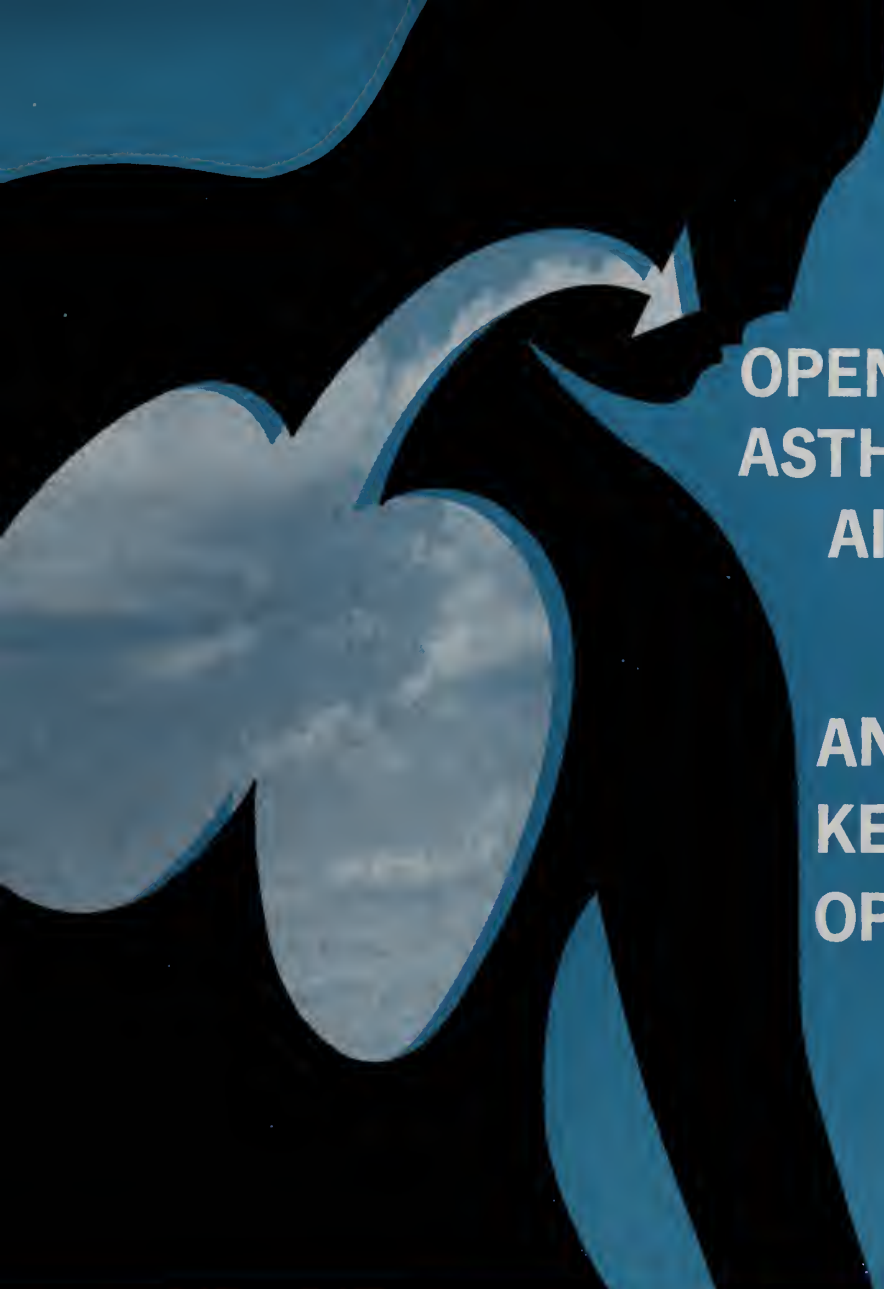
Richmond, has been certified by the American Society of Cytology to practice unrestricted clinical diagnostic cytopathology.

## **Dr. Frederick M. Gross,**

McLean, has been elected president of the Heart Association of Northern Virginia.

## **Medical Seminar Cruise.**

Reservations are now being made for the ninth Medical Seminar Cruise of the Department of Postgraduate Medicine of Albany Medical College. This will be a 15-day cruise from New York aboard the ship "Raffaello" of the Italian Line. Ports of call include Port Everglades, Florida, San Juan,



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ASTHMATIC  
AIRWAYS—**

**AND HELPS  
KEEP THEM  
OPEN**

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## **DURA-TABS<sup>®</sup>**

for *prolonged* aid to ventilation

Each Numa Dura-Tab provides:

theophylline . . . . .	225 mg.
ephedrine HCl . . . . .	50 mg.
butabarbital . . . . .	25 mg.

(Warning: butabarbital may be habit-forming.)

Numa Dura-Tabs provide *prolonged* three-way action to ease breathing. Theophylline, a potent bronchodilator with minimal effect on the CNS, opens air passages and reduces bronchial spasm. Ephedrine HCl improves breathing capacity through its decongestant action. Butabarbital, a mild sedative, allays fear and apprehension.

Dosage: One Numa Dura-Tab every 8 to 12 hours helps keep the asthmatic patient symptom-free all day/all night.

Precautions: Use with caution in cardiovascular or hyperthyroid disease, severe hypertension, circulatory collapse, prostatic hypertrophy, or glaucoma.



# CONTINUING MEDICAL EDUCATION PROGRAM

## UNIVERSITY OF VIRGINIA / SCHOOL OF MEDICINE

1967-68

### APPROACHES TO CLINICAL PROBLEMS

September 28-29, 1967

**Guest Faculty:** Dr. Ernest Craige, Cardiologist, University of North Carolina; Dr. William Dameshek, Hematologist, Mt. Sinai Medical Center

In this course the diagnosis and management of clinical problems will be approached mainly through the medium of case presentations and group discussion with a minimum of didactic material.

A.A.G.P. Credit: 15 Hours      Fee: None  
(Meals will be Dutch Treat.)

#### Thursday, September 28

- 10:00 Hypochromic Anemias—Dr. Wheby.
- 11:00 Hemolytic Anemias—Dr. Mohler.
- 1:00 Medical Grand Rounds—Drs. Leavell and Dameshek.
- 2:00 Clinical Spectrum of Lympho-Proliferative Diseases and the Dysproteinemias—Drs. Goldstein, Dameshek, Leavell.
- 3:45 Diagnostic and Therapeutic Problems in Lupus, Arthritis, and Gout—Drs. Davis, Newcombe & O'Brien.

#### Evening Session

- 7:30- Hypertension—Which Studies and
- 9:30 Treatment in Which Patients?—Drs. Beckwith, Atuk, Ayers, Smith, Westervelt & Wilson.

#### Friday, September 29

- 9:00 Hemodynamic Basis of Cardiovascular Physical Signs and Precordial Activity—Dr. Craige.
- 10:00 Presentation of Patients with Cardiac Lesions—Stethophones to be provided for group auscultation.—Drs. Beckwith, Carpenter, Craige, McGuire & Partain.
- 2:00 Infectious Disease & Drug Usage—Brief Case Presentations—Drs. Kunin, Edmondson, Gwaltney, Hunter, & McCormack.
- 4:00 Diagnostic Role of Angiography and Other Radiology Techniques—Drs. Keats and Staff.
- 6:30 Social Hour and Dinner—Ladies Invited.

#### Saturday, September 30

Regular conferences will be open to all physicians.

- 1:30 Football—U. of Buffalo vs. U. Va.

### PREVENTION AND MANAGEMENT OF COMPLICATIONS IN SURGICAL PATIENTS

November 3-4, 1967

**Guest Faculty:** Dr. William Altemeier, Department of Surgery, University of Cincinnati.

This program will emphasize certain complications important in the care of patients undergoing wide varieties of surgical procedures, emergency or elective. The three major subjects to be covered are: 1. Shock, 2. Respiratory Problems, 3. Infections. This program should be of interest to physicians in various fields of surgery, and to family physicians, internists, pediatricians and anesthesiologist concerned with pre- and post-operative patient care.

A.A.G.P. Credit: 9 Hours.      Fee: None  
(Meals will be Dutch Treat.)

#### Friday, November 3

- 9:00 Registration. Operative clinics and intensive care unit demonstration (Optional)—Department of Surgery Staff.
- 1:00 "Shock-Current Concepts and Management"—Drs. Wangenstein, Brand, Gilmore, Sandusky, Rudolf Wood.
- 3:15 "Anticipation and Management of Respiratory Problems"—Drs. Heironimus, Dammann, Eastwood, Hunt, Minor.
- 6:30 Social Hour and Dinner (Ladies invited)

#### Saturday, November 4

- 8:30 Surgical Grand Rounds—Dr. Muller
- 9:30 "Antibiotics in Surgical Infections"—Dr. Altemeier
- 10:15 "Panel on Surgical Infections"—Drs. Sandusky, Altemeier, Gillenwater, Kunin.
- 11:00 Clinico-Pathological Conference—(Optional)
- 1:30 Football—N. C. State vs. Univ. of Va.

### MEDICAL SEMINAR

February 1-3, 1967

#### The Homestead, Hot Springs, Virginia

Practical aspects of certain clinical problems with ample opportunity for discussion of individual problems. Part of program devoted to discussions of problems in Medical Education and Health Care.

A.A.G.P. Credit: 9 Hours.      Fee: \$35.00

For further information please write Continuing Education Program,  
Box 333, University of Virginia Medical Center, Charlottesville, 22901.

St. Thomas, Curacao, LaGauira—Venezuela, Jamaica and Nassau. It constitutes 24 hours of A.A.G.P. credit.

For information write to the College at Albany, New York 12208.

### **New Addition to St. Albans.**

Groundbreaking for the new addition to St. Albans Psychiatric Hospital, Radford, was held on July 27. The addition will expand the dietary facilities, add more office space and provide new beds for patients. Space will also be provided in the basement for a bowling alley but actual construction of this will come later. The addition should be completed late in 1968.

### **Emergency Care and Transportation of the Sick and Injured.**

The first practical course on the above will be held in Richmond under the sponsorship of the Committee on Injuries of the American Academy of Orthopaedic Surgeons, October 19-21, at the Medical College of Virginia. Invited to attend the course are ambulance attendants, firemen,

policemen, safety engineers, rescue squads, public health, civil defense and other officials dealing with the initial handling of members of the public ill or hurt in accidents. The course has been organized and will be directed by Dr. Virgil R. May, Jr., clinical associate in orthopaedic surgery of the College.

### **Wanted.**

Student Health Physician at Virginia Polytechnic Institute, Blacksburg. For details, contact Emory R. Irvin, M.D., Student Health Services. Phone 552-6444. (*Adv.*)

### **Wanted.**

Emergency Room physicians licensed in Virginia. Two needed to provide 12 hour coverage daily; 289 bed J.C.A.H. hospital; approximately 17,200 visits annually; fee for service with \$18,000 guarantee. Apply in detail to Administration, Winchester Memorial Hospital, Winchester, Virginia. (*Adv.*)

## **Obituaries . . . .**

### **Dr. Guy Winston Horsley,**

President of The Medical Society of Virginia, 1961-62, died at his home in Richmond July 17. He was sixty-two years of age and received his medical degree from the University of Virginia in 1929. Dr. Horsley was the son of the late Dr. John Shelton Horsley internationally known surgeon and founder of St. Elizabeth's Hospital in Richmond. Dr. Guy Horsley served his internship and residency at St. Elizabeth's and continued his practice there until his death. He was an associate professor of surgery at

the Medical College of Virginia. He served during World War II as chief of surgical services with the 45th General Hospital in Italy and was awarded the Legion of Merit, the army's second highest award for "exceptionally meritorious conduct . . . during times of greatest stress immediately following the drive on Rome and the invasion of Southern France." He was chief of surgery at McGuire General Hospital during 1945 and had served as a consulting surgeon at the Veterans Administration Hospital since 1946.

Dr. Horsley was a past president of the Richmond Academy of Medicine, the State Board of Medical Examiners, a past director and past president of the Virginia Hospital Service Association, past director of the Virginia Medical Service Association, past president of the Southern Surgical Association, and past vice president of the Virginia Chapter of the American Cancer Society. He had been a member of The Medical Society of Virginia for thirty-seven years and had held many positions on the Council and on Committees.

An Editorial in the Richmond News Leader stated: "In a life that was all too short, Dr. Horsley made the utmost of the years that were allotted to him. Whether as a medical student, a surgeon in private practice, a field officer with the 45th General Hospital in World War II, an Associate Professor of Clinical Surgery at MCV, a proprietor of St. Elizabeth's Hospital, a leader in fund raising for Richmond Memorial Hospital, or just as a good citizen of his city and his State, Guy Horsley never failed to put every ounce of his strength into the work at hand. He has left a great example of service to his fellow man and has left this entire community a better place of his having lived in it."

His wife, two daughters and a son survive him.

#### **Dr. William Flegenheimer,**

Woodford, died July 13th at the age of eighty-seven. He was a graduate of the Medical College of Virginia in 1907. Dr. Flegenheimer had practiced in Caroline County for over fifty years—he made house calls until four years ago. He had been a member of The Medical Society of Virginia for fifty-six years. He was a Shriner also.

#### **Dr. Finch.**

Dr. Adam Tyree Finch, Jr., 61, Obstetrician and Gynecologist, died at his home near Hampden-Sydney,

June 18, 1967. Son of the late Dr. Adam Tyree Finch and Bessie Morton Finch, he was a graduate of Randolph-Macon College, the University of Virginia, from which his father was also graduated, and Duke University Medical School. Having served as a general practitioner in Chase City for a number of years, he returned to Duke University Hospital for a residency in obstetrics and gynecology after which he established a practice in Farmville, where he was a member and past president of the Southside Community Hospital Medical Staff. He was an active member and former president of the Fourth District Medical Society, a former councilman and Vice-President of The Medical Society of Virginia, a fellow in the American Society of Obstetricians and Gynecologists, a member and former president of the Virginia Obstetrical and Gynecological Society, a member and twice chairman of the Virginia State Board of Maternal Health and Welfare, and a member of the Virginia State Board of Medical Examiners. He was a charter member of the "Nick Carter Travel Club" and was also a member of Phi Beta Kappa, academic society; Alpha Omega Alpha, honorary Medical fraternity; Phi Delta Theta, social fraternity. A gentleman, scholar, friend and counselor, he gave of himself to his friends, patients and medical profession. His dedication to Southside Community Hospital, the Fourth District Medical Society, and The Medical Society of Virginia went far beyond the call of duty; his intelligence, wit, and warmth left a deep impression on those who were fortunate enough to know him; he was compassionate with his patients and always lent a sympathetic ear to the problems of others.

Dr. Finch is survived by his wife, Mrs. Leah Nachman Finch of Hampden-Sydney; a daughter and a grandson, a stepson, two sisters and a brother, Dr. William C. Finch of Emory, Virginia.


WHEREAS: He did serve faithfully for many years on the staff of Southside Community Hospital and where he discharged his duties with knowledge and sincere concern for the welfare of his patients and colleagues and

WHEREAS: The staff of Southside Community Hospital realizes the loss to the hospital and the community in his death,

THEREFORE BE IT RESOLVED a record of his passing and our loss be included in the minutes of meeting of the Southside Community Hospital Staff and copies be sent to The Medical Society of Virginia and to Mrs. Finch.

ANTHONY J. MUNOZ, M.D.  
WILLIAM C. COPPEDGE, M.D.  
RAY A. MOORE, JR., M.D.





fall 1967

**DORSEY**

# Season

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this issue: smog, smaze or smust...

# Smog, smaze or smust...effects of air pollution on upper respiratory tract

Nathan Flaxman, M.D., Diplomate, American Board of Internal Medicine, Chicago, Illinois

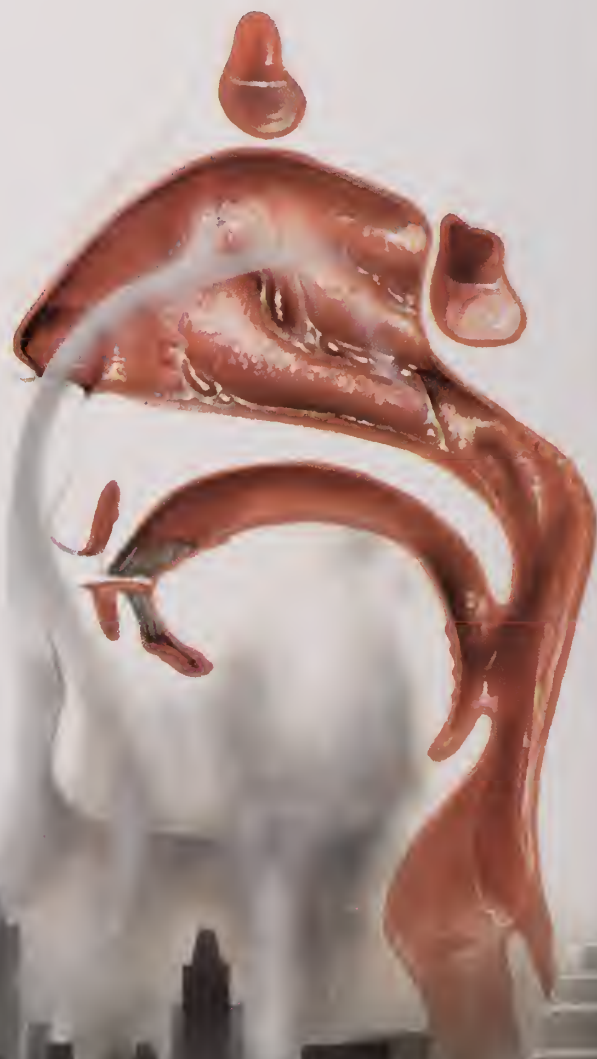
In Los Angeles it is *smog* (smoke and fog). In New York City *smaze* (smoke and haze). In El Paso *smust* (smoke and dust). The original factor was smoke plus such natural phenomena as fog, haze and dust, but air pollution has mushroomed from a smoke problem in our industrial cities into a major economic, esthetic and public health problem that affects practically every American locality and citizen.<sup>1,2</sup> Respiratory disease, of course, is by far the most costly effect of air pollution, for contaminated air can aggravate our illnesses, deplete our strength and shorten our life span.<sup>1</sup>

The greatest problem in dealing with solid wastes is that they are not quickly returned to dust. To aid the decomposing process, the great bulk of such waste is burned, polluting our air in the process.<sup>3</sup> Dr. Jack McKee of the California Institute of Technology<sup>4</sup> has calculated that in Los Angeles County, which has more than six million people, about three pounds of gaseous wastes per person per day (on a dry-weight basis) enter the atmosphere. This is twice as much as solid refuse disposal and six times as much as the contaminants in waste water. It is estimated that in New York City, 730 pounds of pollutants, a little over half the size of a compact two-door sedan of foreign make, is annually thrown into the air for each man, woman and child in the city.<sup>5</sup>

Air pollution is an evident factor, not only in the common cold and upper respiratory disease, but also in chronic bronchitis,<sup>2</sup> pulmonary emphysema,<sup>6</sup> bronchial asthma,<sup>7</sup> pneumonitis and lung cancer.<sup>8</sup> Its effect on the incidence of pulmonary tuberculosis is unproved,<sup>9</sup> although it is conceivable that the

presence of various materials polluting the air might do this. A siege of smog in Denver, the "mile high city," in December 1965 was accompanied by respiratory infection that doubled normal absentee rates in schools, factories and city government.<sup>10</sup>

While air pollution is only one factor, it has become important in the causes of most of the afflictions of the respiratory tract. This has been shown not only by the Denver occurrence, but also by detailed study<sup>2</sup> of respiratory illness in a small group of 313 men





from October 1962 to May 1963 when there were 202 episodes involving the upper respiratory tract. The attack rate of illness was related in time to increased concentration of both smoke and sulphur dioxide in the atmosphere of the district in which the men lived.

Other factors often mentioned, include exposure to those who have colds, exposure to extreme changes of temperature, allergy and bacterial infection. However, when low individual resistance due to lack of rest, overwork, fatigue, improper or unbalanced diet, previous illness and emotional stress are included as causes, we enter the realm of somewhat obscure relationships. Much more emphasis can be placed on the role of polluted air.

**t**he symptoms, signs and complications of involvement of the upper respiratory tract, especially the common cold, are the same regardless of the causative factor. Swelling of the lining of the nose, the scratchy dry throat, the discharge from the nose at first watery then thicker, discolored and more tenacious, the eyes tearing, and frequent sneezing are all part of the Number 1 human ailment. Concurrent or residual sinusitis when mucus is trapped there, middle ear involvement due to interference with drainage, laryngitis and bronchitis are complications of the common cold. The primary interference is with a most important function of the nose—the cleansing of foreign matter in the first line of “air defense” to prevent it from entering the breathing tract.

However, the diagnosis and subsequent decision on how to treat the patient so affected rests basically on the relief of symptoms that cause him the misery. The stuffed, runny nose, the clogged ears, and the harsh dry cough—all the symptoms that make common cold sufferers feel miserable and interfere with their sleep—can be alleviated with medications of the oral nasal decongestant/antihistamine combination type. The burning sensation in the throat, sore-

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ness of the chest and even chest pain can also be relieved by such medication. Rest in bed if there is fever (but confined to home at least), liberal fluids, uniformly warm surroundings and adequate humidity in the room, are all helpful adjuncts to the medication. Most common cold sufferers recover rapidly and are symptom-free in four to ten days.

Further treatment, altered by the fact that the affliction hangs on for more than the usual duration of the common cold, requires consideration of allergy, which is most frequently the prolonging factor. But air pollution itself may often be the culprit.

(Concluded on following page)





**a**t the Third National Conference on Air Pollution held recently, it was emphasized that this subject had received more attention in the past four years than in all previous history. Spicer,<sup>11</sup> an active participant at this conference, reiterated that it behooves the practicing physician to be aware of trends in respiratory disease and to accept a major role in community action relating to air pollution and respiratory health. By taking a positive stand physicians have been instrumental in the development of anti-pollution legislation. An outstanding example is Los Angeles where major steps have been taken by abolishing coal burning, and even banishing oil burning, seven months a year. Natural gas must be used instead and it must be used by industry when available. Backyard incinerators have been abolished in favor of landfill disposal, and building incineration ended except for a few expensive smokeless furnaces.<sup>10</sup> Concerted action can be taken against particular industrial nuisances. One company that disregarded complaints discovered its error when thousands of its credit cards were returned by irate customers who decided to patronize competing companies.<sup>12</sup>

**Summary.** Respiratory disease is the most important and most costly effect of air pollution, whether termed smog, smaze, or smust. Air pollution is an economic, esthetic and public health problem that affects practically every American locality and citizen. New sources of air pollution are invisible and odorless, but the harmful gases and liquid droplets are there. Triggered by sunlight, some of these undergo mid-air chemical changes and the results are even more irritating to the upper respiratory tract. The symptoms, signs and complications, especially of the upper respiratory tract, can be readily aborted by modern medication but may be unduly prolonged by polluted air. In steps taken to prevent this, the practicing physician can take a major role.

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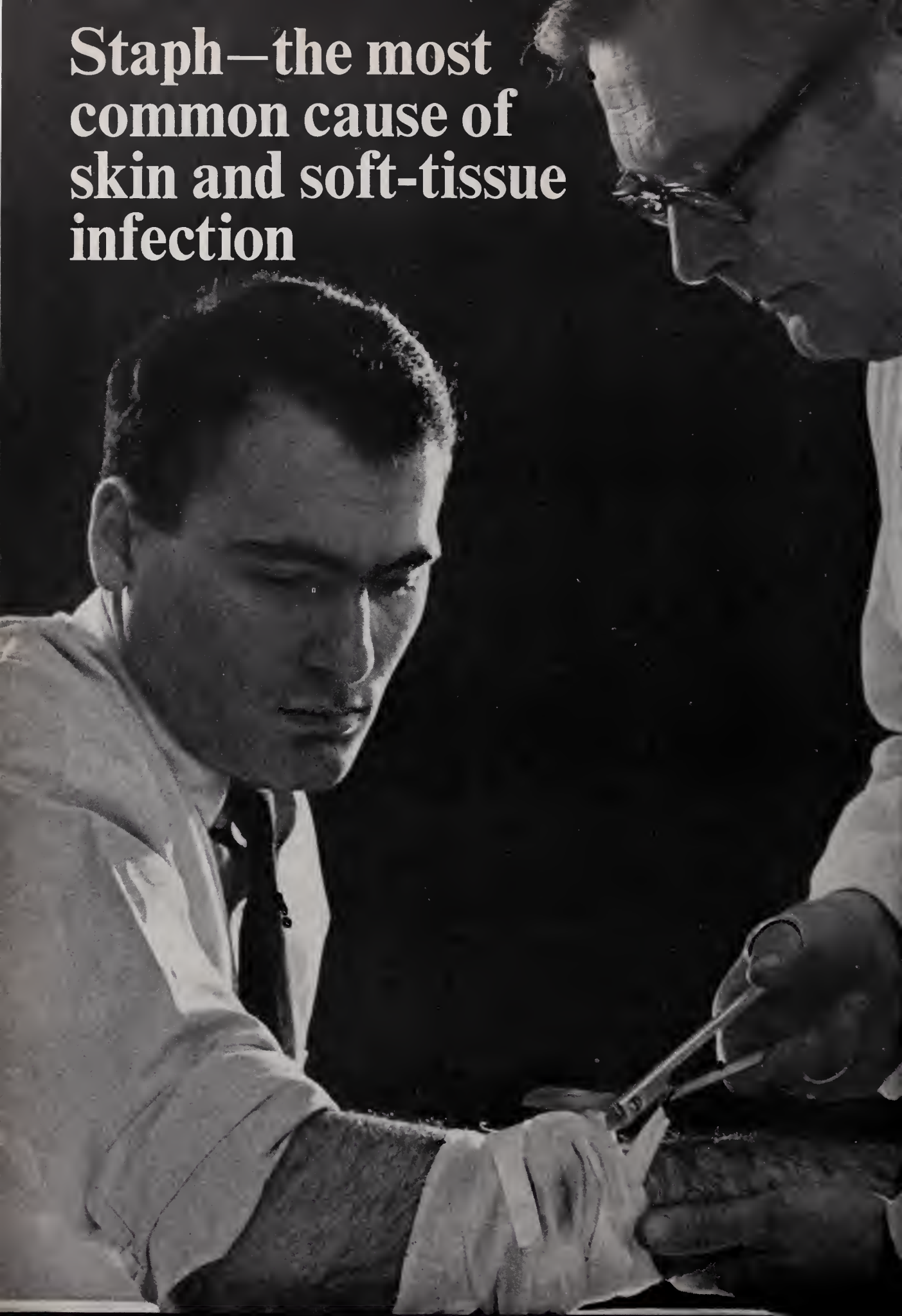
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**A.H.F.S. CATEGORY 8:12.16**

**References:** 1. Abstracted from *Antibiotic Sensitivity of Staphylococci Studied from November 1962 through August 1965*, reported by Griffith, L.J., Staphylococcus Reference Laboratory, V.A. Hospital, Batavia, N.Y. 2. Data on file, Bristol Laboratories.

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Once a day, every day









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METHYCHLOTHIAZIDE 5 MG. WITH DESERPIDINE 0.25 MG.

### ENDURONYL FORTE

METHYCHLOTHIAZIDE 5 MG. WITH DESERPIDINE 0.5 MG.



	Minimum	Usual	Intermediate	Maximum
DAILY DOSAGE RANGE	 <p>2.5 mg. methyclothiazide 0.125 mg. deserpidine</p>	 <p>5 mg. methyclothiazide 0.25 mg. deserpidine</p>	 <p>7.5 mg. methyclothiazide 0.375 mg. deserpidine</p>	 <p>10 mg. methyclothiazide 0.5 mg. deserpidine</p>
DAILY DOSAGE RANGE	 <p>2.5 mg. methyclothiazide 0.25 mg. deserpidine</p>	 <p>5 mg. methyclothiazide 0.5 mg. deserpidine</p>	 <p>7.5 mg. methyclothiazide 0.75 mg. deserpidine</p>	 <p>10 mg. methyclothiazide 1 mg. deserpidine</p>

See Brief Summary on final page of advertisement.

# Eutonyl affords a different kind of basic therapy for moderate to severe cases



**Effect tied to reduced peripheral vascular resistance; no central depressant action**

Eutonyl is a unique nonhydrazine agent. It is reported to act by reducing peripheral vascular resistance.<sup>1,2</sup>

In clinical trials, significant reductions in mean blood pressure were seen in 84% of patients studied—all were moderate to severe cases. Eutonyl lowers diastolic in proportion to systolic, and in about half of the cases studied, reductions in the sitting and recumbent positions were nearly as great as in the standing position.





Most important: There is no central depressant action. In fact, some patients reported an *increased* sense of well being.

Here, then, is a highly effective *basic treatment* for moderate to severe cases—and one that will not hamper your patient with lethargy or drowsiness while on treatment.

Once a day, every day

**EUTONYL®**  
PARGYLINE HYDROCHLORIDE



	Minimum	Usual starting	Intermediate	Maximum
DAILY DOSAGE RANGE	 10 mg. tablet	 25 mg. tablet	 50 mg. tablet or as needed	 200 mg.

1. Brest, A. N., et al., *Cardiac and Renal Hemodynamic Response to Pargyline*, Ann. N. Y. Acad. Sci., 107-1016, 1963.  
2. Winsor, T., *Pargyline Hydrochloride, Hypertension, Urinary Tryptamine, and Vascular Reflexes*, Geriatrics, 19:598, Aug., 1964.

See Brief Summary on final page of advertisement.



# Eutron adds thiazide for enhanced therapy with milder side effects



**Only a 7/4 mm. span between standing and recumbent pressures in clinical trials—reduced chance of orthostatic hypotension**

The combining of Eutonyl and Enduron in Eutron permits a significantly greater antihypertensive effect than with either agent used alone. This in turn may allow therapeutic success with lesser dosage—and correspondingly milder side effects.





A significant finding in clinical trials was the drug's action in lowering blood pressure to *nearly equal levels in all body positions*. Total average spread between standing and recumbent readings (after treatment) was only 7/4 mm. Hg.

Thus, in your moderate to severe cases, Eutron affords a usually smooth course of therapy, often with reduced likelihood of orthostatic effects. (The usual precautions against rising suddenly, of course, will always apply.) And, because of the thiazide component, Eutron may be used in the presence of congestive heart failure.

*Once a day, every day*

**EUTRON™**  
PARGYLINE HYDROCHLORIDE 25 MG.  
WITH METHYLOTHIAZIDE 5 MG.



	Minimum	Usual starting	Intermediate	Maximum
DAILY DOSAGE RANGE	 12.5 mg. pargyline hydrochloride and 2.5 mg. methclothiazide	 25 mg. pargyline hydrochloride and 5 mg. methclothiazide	 37.5 mg. pargyline hydrochloride and 7.5 mg. methclothiazide	 50 mg. pargyline hydrochloride and 10 mg. methclothiazide

See Brief Summary on final page of advertisement.

## ENDURON<sup>®</sup> ENDURONYL<sup>®</sup>

METHYCHLOTHIAZIDE

Each tablet contains  
Methychlothiazide 5 mg. with  
Deserpidine 0.25 mg. or 0.5 mg.

**Indications:** Enduron is used to control edema and mild to moderate hypertension; also used with other drugs for hypertension. Enduronyl is used in mild to moderately severe hypertension; when used with Enduronyl, more potent agents can be given at reduced dosage to minimize undesirable side effects.

**Contraindications:** Neither Enduron nor Enduronyl should be used in severe renal disease (except nephrosis) or shutdown; in severe hepatic disease or impending hepatic coma; in patients sensitive to thiazides. Hepatic coma has been reported as a result of hypokalemia in patients receiving thiazides.

Enduronyl is contraindicated in patients with severe mental depression and suicidal tendencies, active peptic ulcer, or ulcerative colitis.

**Warnings:** Consider possible sensitivity reactions in patients with a history of allergy or asthma. If added potassium intake is indicated, dietary supplementation is recommended. Enteric-coated potassium tablets should be reserved for cautious use only when adequate dietary supplementation is not practical because those tablets may induce serious or fatal small bowel lesions consisting of stenosis with or without ulceration. These small bowel lesions have caused obstruction, hemorrhage and perforation frequently requiring surgery. Medication should be discontinued immediately if abdominal pain, distension, nausea, vomiting or GI bleeding occurs.

**Precautions:** Use thiazides with caution in severe renal dysfunction, impaired hepatic function, or progressive liver disease. In surgical patients, thiazides may reduce the response to vasopressors and increase the response to tubocurarine. Use thiazides with caution in pregnancy (bone marrow depression, thrombocytopenia, or altered carbohydrate metabolism have been reported in certain newborn infants). Also reported have been: blood dyscrasias including thrombocytopenia with purpura, agranulocytosis and aplastic anemia; elevations of BUN, serum uric acid, or blood sugar. Symptomatic gout may be induced. Antihypertensive response may be enhanced following sympathectomy.

Use Enduronyl with caution in patients with a history of peptic ulcer, as rauwolfias may increase gastric secretion. Discontinue at the first sign of mental depression. Rauwolfia alkaloids may increase hypotensive effects of surgery or anesthesia, and should be discontinued two weeks prior. They also lower the convulsive threshold and shorten seizure latency. In epilepsy, dosage adjustment of anticonvulsant medication may be necessary. Alcohol, barbiturates, or narcotics may potentiate action of deserpidine.

**Adverse Reactions:** During intensive or prolonged therapy, guard against hypochloremic alkalosis and hypokalemia (especially the latter if patient is on digitalis). All patients should be observed for signs of hyponatremia ("low-salt" syndrome). Reported thiazide reactions include: anorexia, nausea, vomiting, diarrhea, headache, skin rash, dizziness, paresthesia, weakness, photosensitivity, jaundice, and pancreatitis.

Reported rauwolfia reactions include: nasal stuffiness, nausea, weight gain, diarrhea, aggravation of peptic ulcer, epistaxis, skin eruption, and reduction of libido and potency. Excessive drowsiness, fatigue, weakness, and nightmares may signal early signs of mental depression.

## EUTONYL<sup>®</sup> EUTRON<sup>™</sup>

PARGYLINE HYDROCHLORIDE

Each tablet contains  
Pargyline Hydrochloride 25 mg.  
with Methychlothiazide 5 mg.

**Indications:** For treatment of patients with moderate to severe hypertension, especially those with severe diastolic hypertension. Not recommended for patients with mild or labile hypertension amenable to therapy with sedatives and/or thiazide diuretics alone. It is desirable to establish the dosage of Eutron by administering component drugs separately.

**Contraindications:** Pheochromocytoma, advanced renal disease, increasing renal dysfunction, paranoid schizophrenia and hyperthyroidism. Hepatic coma has been reported as consequence of hypokalemia with thiazide therapy. Until further experience is gained not recommended for patients with malignant hypertension, children under 12, or pregnant patients.

Concomitant use of the following is contraindicated: other monoamine oxidase inhibitors; parenteral forms of reserpine or guanethidine; sympathomimetic drugs; foods high in tyramine such as cheese; imipramine and amitriptyline, or similar antidepressants; methyl dopa. 2 week interval should separate therapy and use of these agents.

Methychlothiazide is contraindicated in patients with known sensitivity to thiazides.

**Warnings:** Pargyline hydrochloride is a monoamine oxidase inhibitor. Warn patients against eating cheese, and using alcohol, proprietary drugs or other medication without the knowledge of the physician. When indicated, alcohol, narcotics (meperidine should be avoided), antihistamines, barbiturates, chloral hydrate, and other hypnotics, sedatives, tranquilizers, or caffeine, may be used cautiously in reduced dosage. In emergency surgery  $\frac{1}{4}$  to  $\frac{1}{2}$  the usual dose of narcotics, analgesics, and other premedications should be used avoiding parenteral administration where possible. Carefully adjust dose of anesthetics to response of patient. Withdraw pargyline two weeks before elective surgery.

Warn patients about the possibility of postural hypotension. Those with angina or coronary artery disease should not increase physical activity with an improvement in well being. Pargyline may lower blood sugar.

Avoid use of enteric-coated potassium tablets, as these may induce serious or fatal small-bowel lesions consisting of stenosis with or without ulceration. These small-bowel lesions have caused obstruction, hemorrhage and perforation frequently requiring surgery. Medication should be discontinued immediately if abdominal pain, distension, nausea, vomiting or GI bleeding occurs. These products contain no added potassium salts and if added potassium intake is desired, dietary supplementation is recommended. Coated potassium tablets should be reserved for cautious use when adequate dietary supplementation is impractical. In patients with a history of allergy or asthma the possibility of sensitivity reactions should be considered.

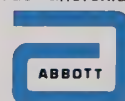
**Precautions:** Measure blood pressure while patient is standing to determine antihypertensive effect. Use with caution in hyperactive or hyperexcitable persons. Such persons may show increased restlessness and agitation. Withdraw drug during acute febrile illness. Watch patients with impaired renal function for increasing drug effects or elevation of BUN and other evidence of progressive renal failure; withdraw drug if such alterations persist and progress. Use with caution in patients with liver disease. As with all new drugs, complete blood counts, urinalyses, and liver function tests should be performed periodically. With prolonged therapy, examine patients for change in color perception, visual fields and fundi. Also reported have been: blood dyscrasias including thrombocytopenia with purpura, agranulocytosis and aplastic anemia; elevations of BUN, serum uric acid, or blood sugar. Symptomatic gout may be induced. In surgical patients thiazides may reduce response to vasopressors and increase response to tubocurarine.

**Adverse Reactions:** Pargyline may be associated with orthostatic hypotension. Mild constipation, slight edema, dry mouth, sweating, increased appetite, arthralgia, nausea and vomiting, headache, insomnia, difficulty in micturition, nightmares, impotence, delayed ejaculation, rash, and purpura have been encountered with pargyline. Hyperexcitability, increased neuromuscular activity (muscle twitching) and other extrapyramidal symptoms have been reported in a few patients with reduced cardiac reserve.

During intensive or prolonged therapy, guard against hypochloremic alkalosis and hypokalemia (especially the latter if patient is on digitalis). Observe all patients for signs of hyponatremia ("low salt" syndrome).

Reported thiazide reactions also include anorexia, nausea, vomiting, diarrhea, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, and pancreatitis. Nocturia has been observed with the combination.

709075R





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# when bursitis hits a 280-lb. tackle, hit back with Butazolidin alka



**Indications:** Osteoarthritis, rheumatoid arthritis, rheumatoid spondylitis, psoriatic arthritis, acute gout, painful shoulder (peritendinitis, capsulitis, bursitis and acute arthritis of that joint), acute superficial thrombophlebitis.

**Contraindications:** Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently. Large doses of Butazolidin alka are contraindicated in glaucoma.

**Warning:** If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Instances of severe bleeding have occurred. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

**Precautions:** Before prescribing, carefully select patients, avoiding those responsive to routine measures as well as contraindicated patients. Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should not exceed recommended dosage, should be closely supervised and should be warned to discontinue the drug and report immediately if fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage occur. Make regular blood counts. Discontinue the drug immediately and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

**Adverse Reactions:** The most common are nausea, edema and drug rash. Swelling of the ankles or face may be minimized by withholding dietary salt, reduction in dosage or use of diuretics. In elderly patients and in those with hypertension the drug should be discontinued with the appearance of edema. The drug has been associated with peptic ul-

**For 280-lb. tackles — or 108-lb. housewives — Butazolidin alka can hasten recovery from the agonizing pain of shoulder bursitis.**

**It's not for every patient. Check carefully the Contraindications, Warning and Precautions shown below.**

**And adverse reactions may occur. The most common are nausea, edema and rash. Rarely, agranulocytosis has been reported. All adverse reactions are listed below, too.**

**Play-for-pay or workaday patients — when they come up with shoulder bursitis and your clinical judgment indicates Butazolidin alka — go with it.**

**And watch the comeback.**



cer and may reactivate a latent peptic ulcer. The patient should be instructed to take doses immediately before or after meals or with milk to minimize gastric upset. Mild drug rashes frequently subside with reduction of dosage. However, rash accompanied by fever or other systemic reactions usually requires withholding medication. Purpuric rash has also been reported. Agranulocytosis, exfoliative dermatitis, Stevens-Johnson syndrome, or a generalized allergic reaction similar to serum sickness may occur and require permanent withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported. While not definitely attributable to the drug, a causal relationship cannot be excluded. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

6509-V(B)R2

## **Butazolidin<sup>®</sup> alka**

### **Capsules**

100 mg. phenylbutazone  
100 mg. dried aluminum hydroxide gel  
150 mg. magnesium trisilicate  
1.25 mg. homatropine methylbromide

**Dosage in painful shoulder:** Initial: 3 to 6 capsules daily in 3 or 4 equal doses. Trial period: 1 week. Maintenance dosage should not exceed 4 capsules daily; response is often achieved with 1 or 2 capsules daily.

**For complete details, please see full prescribing information.**

Geigy Pharmaceuticals


Division of Geigy Chemical Corporation, Ardsley, New York











# Tissue's healing nicely. Yet anxiety slows his steps toward recovery.

By helping overcome anxiety and tension which can thwart the convalescent's progress, EQUANIL (meprobamate) often may play an important role in medical and surgical aftercare.

**Cautions:** Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use may result in dependence or habituation in susceptible persons—as ex-addicts, alcoholics, severe psychoneurotics. After prolonged high dosage, drug should be withdrawn gradually to avoid possibly severe withdrawal reactions including epileptiform seizures. Side effects include drowsiness and, rarely, allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute non-thrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. If an allergic reaction occurs, meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Warn patients of possible reduced alcohol tolerance. Should drowsiness, ataxia, or visual disturbances occur, dose should be reduced. If symptoms persist, patients should not operate vehicles or dangerous machinery. A few cases of leucopenia, usually transient, have been reported following prolonged dosage. Other blood dyscrasias—aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia—have occurred rarely, almost always in the presence of known toxic agents. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. Prescribe very cautiously for patients with suicidal tendencies. Suicidal attempts should be treated with immediate gastric lavage and appropriate supportive therapy.

**Contraindications:** History of sensitivity to meprobamate.

**Composition:** Tablets, 200 mg. and 400 mg. meprobamate. Coated Tablets, WYSEALS® EQUANIL (meprobamate) 400 mg. Continuous-Release Capsules, EQUANIL L-A (meprobamate) 400 mg.

Wyeth Laboratories  
Philadelphia, Pa.



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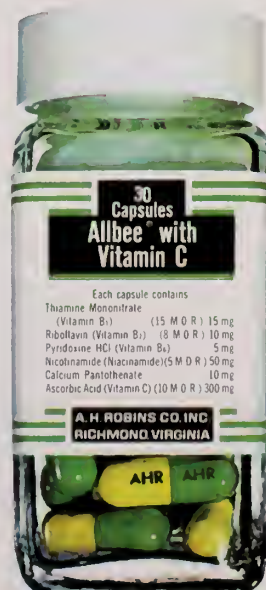
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	each tablet, capsule or 5 cc. of elixir (23% alcohol)	each Extentab <sup>®</sup>
hyoscyamine sulfate	0.1037 mg.	0.3111 mg.
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phenobarbital (¼ gr.)	16.2 mg.	(¾ gr.) 48.6 mg.
(Warning: may be habit forming)		

**Brief summary.** Blurring of vision, dry mouth, difficult urination, and flushing or dryness of the skin may occur on higher dosage levels, rarely on usual dosage. Administer with caution to patients with incipient glaucoma or urinary bladder neck obstruction. Contraindicated in acute glaucoma, advanced renal or hepatic disease or a hypersensitivity to any of the ingredients.



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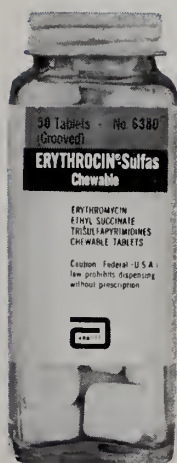
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\* Perhaps there have been times when you wanted to prescribe erythromycin and triple sulfas for little patients. Now you can—with a choice of two new fine-tasting pediatric forms.



# New—Two Pediatric Forms of Erythromycin and Triple Sulfas



## ERYTHROCIN®-SULFAS Chewable (Erythromycin ethyl succinate-trisulfapyrimidines chewable tablet)

In clinical trials<sup>1,2</sup>, this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

Diagnoses (multiple in some cases) represented a cross section of bacterial infections commonly seen in pediatric office practice.

Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

**A clinical cure rate of 94.5%**



## ERYTHROCIN®-SULFAS Granules (Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated<sup>1,2</sup>—all children, ages four months to 15 years.

The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

701358

**A clinical cure rate of 97.7%**

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.



Brief  
Summary  
on next  
page



# ERYTHROCIN®-SULFAS

## Brief Summary

**Contraindications:** Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

**Warnings:** As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

**Precautions, Side Effects:** Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steroids, etc.) should be administered and the drug withdrawn.

**Adverse Reactions:** Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

**Supplied:** The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.



701358

Old age

Convalescence

Adolescence

Infant diarrhea

Debilitating gastrointestinal conditions

Postoperatively

Whenever the diet is faulty, the appetite poor, or the loss of food is excessive through vomiting or diarrhea—

## Valentine's MEAT EXTRACT

stimulates the appetite, increases the flow of digestive juices, provides: supplementary amounts of vitamins, minerals and soluble proteins, extra-dietary vitamin B<sub>12</sub>, protective quantities of potassium, in a palatable and readily assimilated form.

Supplied in bottles of 2 or 6 fluidounces.

DOSAGE is 1 teaspoonful two or three times daily; two or three times this amount for potassium therapy. Dilute with two or more equal volumes of water.

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VIRGINIA MEDICAL MONTHLY

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**when he just can't sleep**  
**Tuinal**

**One-Half Sodium Amobarbital and  
One-Half Sodium Secobarbital  
supplied in  $\frac{3}{4}$ , 1½, and 3-grain Pulvules**





**Tuinal helps wakeful patients fall asleep fast, stay asleep all night.**

**Indications:** Tuinal is indicated for prompt and moderately long-acting hypnosis. It is not suitable for continuous daytime sedation.

**Contraindications:** Barbiturates should not be administered to anyone with a history of porphyria, nor should they be given in the presence of uncontrolled pain, because excitement may result.

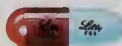
**Warning:** May be habit-forming.

**Precautions:** Tuinal should be used cautiously in patients with decreased liver function, since prolongation of effect may occur.

**Adverse Reactions:** Idiosyncrasy, such as excitement, hangover, or pain, may appear. Hypersensitivity reac-

tions occur in some patients, especially in those with asthma, urticaria, or angioneurotic edema.

**Overdosage:** C.N.S. depression. **Symptoms**—Depression of respiration and of superficial and deep reflexes, slight constriction of the pupils (in severe poisoning, dilation), decreased urine formation, lowered body temperature, coma. **Treatment**—Symptomatic and supportive (gastric lavage; intravenous fluids; maintenance of blood pressure, body temperature, and adequate respiration). Dialysis may speed removal of barbiturates from body fluids.



**Dosage:** 50-200 mg. ( $\frac{3}{4}$ -3 grains) at bedtime.

[031767]

Additional information available to physicians upon request.  
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*removes the mental blur*



*that clouds vision*

# SOLFOTON®

*Each tablet or capsule contains*  
 PHENOBARBITAL..... 16 mg.  
 (Warning: may be habit forming)  
 BENSULFOID® (See P D R)..... 65 mg.  
 Precaution: same as 16 mg. of phenobarbital



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A Solfoton tablet or capsule at 6 hour intervals maintains sedation at the threshold of calmness, sustaining a mental climate for purposeful living.

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 WITHOUT PRESCRIPTION

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**Solfoton Capsules** (yellow and brown)  
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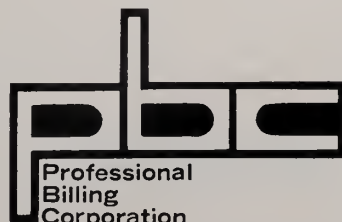
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*"When I couldn't even smell corned beef and cabbage,  
I decided it was time for you, Doc."*

Maybe he doesn't know when he's well off. But you might want to prescribe long-acting Novahistine LP anyway.

Two tablets in the morning and two in the evening will usually provide day and night relief by helping to clear congested air passages for normal, free breathing. Novahistine LP is formulated to provide continuous therapeutic effect for 8 to 12 hours. The decongestant ingredients help restore normal mucus secretion and ciliary activity—physiologic defenses against infection of the respiratory tract.

Use cautiously in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution ambulatory patients that drowsiness may result. Each Novahistine LP tablet contains: phenylephrine hydrochloride, 25 mg., and chlorpheniramine maleate, 4 mg.

**NOVAHISTINE® LP**



**PITMAN-MOORE** Division of The Dow Chemical Company, Indianapolis



## What can be done for Susan Jane To stop the runs and crampy pain?

Parepectolin for quick relief of acute diarrhea  
...soothes colicky pain with paregoric  
...consolidates fluid stools with pectin  
...adsorbs irritants with kaolin, and protects  
intestinal mucosa.

In children, Parepectolin may be used to control  
diarrhea promptly and prevent dehydration,  
until etiology has been determined. In some  
cases, Parepectolin may be all the therapy  
necessary.



# Parepectolin®

Each fluid ounce of creamy white suspension contains:  
Paregoric (equivalent)..... (1.0 dram) 3.7 ml.  
Contains opium ( $\frac{1}{4}$  grain) 15 mg. per fluid  
ounce.  
*warning: may be habit forming*  
Pectin ..... (2½ grains) 162 mg.  
Kaolin (specially purified).... (85 grains) 5.5 Gm.  
(alcohol 0.69%)  
Usual Children's Dose: One or two teaspoonfuls  
three times daily.



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HE WAS TOO FAT!**

ACCORDING TO THE NEW YORK TIMES OF APRIL 13, 1890, THE DEFEAT OCCURRED BECAUSE HE FAILED TO CHECK HIS INTELLIGENCE INFORMATION. "IT WAS A MATTER OF MERE INDOLENCE AND THIS INDOLENCE WAS CAUSED BY FAT."

SOURCE: JAMA 186:65 (OCT. 5) 1963.

**GALLSTONES** HAVE BEEN FOUND IN 60% OF PATIENTS WHO WEIGH MORE THAN 300 POUNDS, 45% HAVE DIABETES, AND 15-TO-20% HAVE HIGH BLOOD PRESSURE.

SOURCE: DUNCAN, G.G.: SCIENCE NEWS LETTER, 83:403 (JUNE 29) 1963.



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ACCORDING TO DRs. SHIPMAN AND PLESSET "APPARENTLY NO DIETER SUCCEEDS WHO IS VERY ANXIOUS OR DEPRESSED."\* THE AMBAR FORMULA PROVIDES **METHAMPHETAMINE** TO HELP ELEVATE THE MOOD AND **PHENOBARBITAL** TO HELP REDUCE ANXIETY.

\*SOURCE: ARCHIVES OF GENERAL PSYCHIATRY 8:26 (JUNE 1963).



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SOURCE: REV. C.W. SHEDD: NEW YORK, LIPPINCOTT, 1958.

**CONTROL FOOD AND MOOD ALL DAY LONG WITH A SINGLE MORNING DOSE**

ne Ambar Extentab before breakfast can help control most patients' appetite for up to 12 hours. Methamphetamine, the appetite suppressant, gently elevates mood and helps overcome dieting frustrations. Phenobarbital, the sedative in Ambar, controls irritability and anxiety...helps maintain a state of mental calm and equanimity. Both work together to ease the tensions that erode willpower during periods of dieting.

Also available: Ambar #1 Extentabs®—methamphetamine hydrochloride 10 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

## AMBAR #2 EXTENTABS®

methamphetamine HCl 15 mg.,  
phenobarbital 64.8 mg. (1 gr.)  
(Warning: may be habit forming).

renal or hepatic disease. **Precautions:** Administer with caution in the presence of cardiovascular disease or hypertension. **Side Effects:** Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. See package insert for further details.

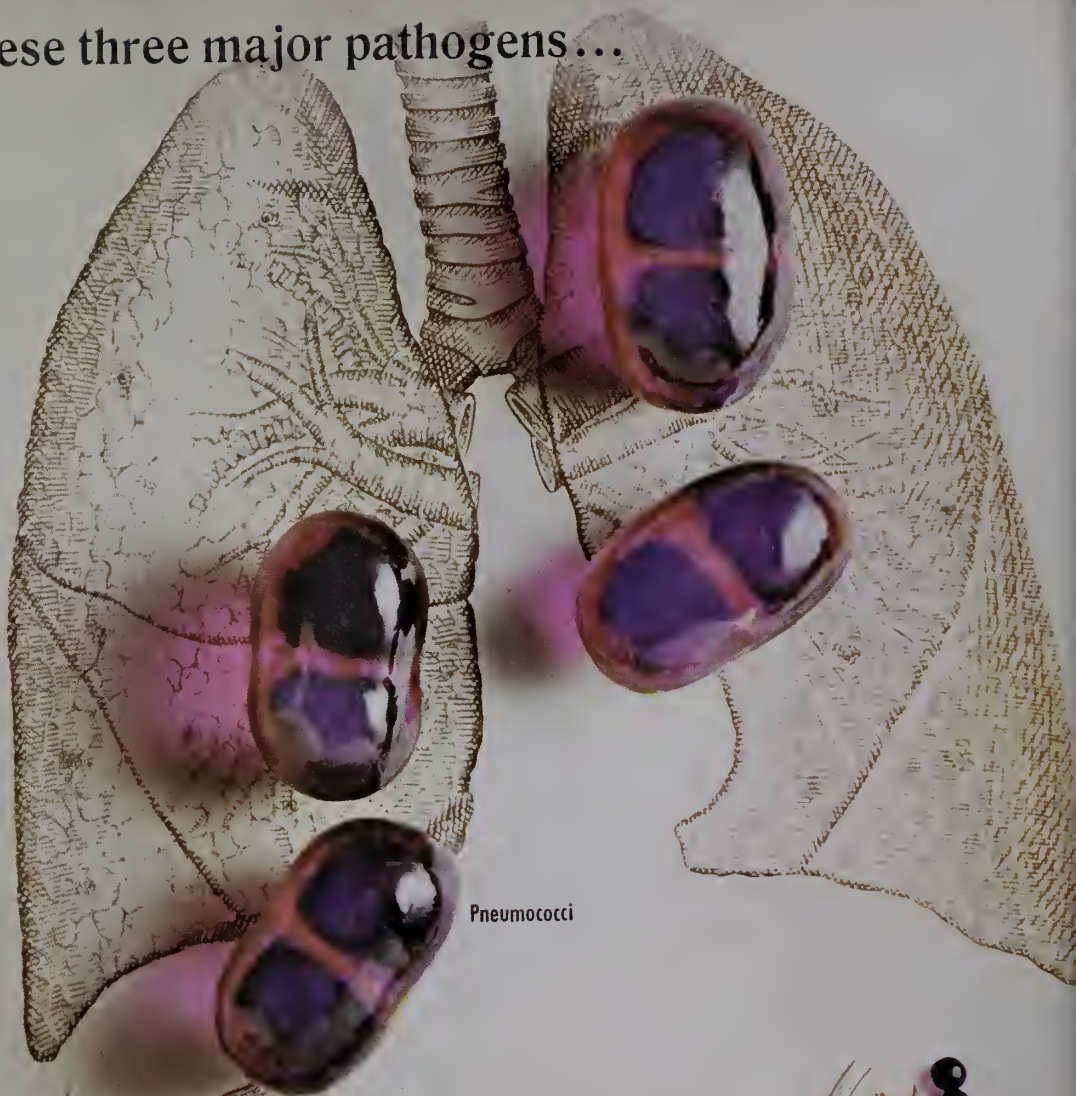
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**BRIEF SUMMARY/Indications:** Ambar suppresses appetite and helps offset emotional reactions to dieting. **Contraindications:** Hypersensitivity to barbiturates or sympathomimetics; patients with advanced



Against these three major pathogens...



Pneumococci

Penicillin-Sensitive  
Staphylococci



Beta-Hemolytic  
Streptococci



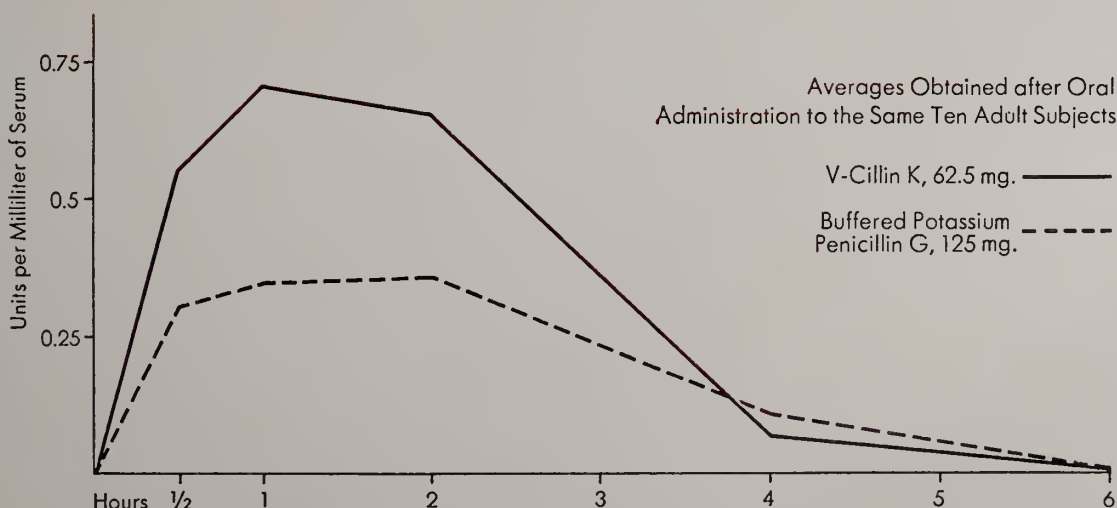
# V-Cillin K<sup>®</sup> provides dependable oral antibacterial activity

**because it combines a high degree of in-vitro activity...**

Antibiotic	Staph. Aureus (Penicillin-Sensitive) MIC (mcg./ml.)		Streptococcus, Group A MIC (mcg./ml.)		Diplococcus Pneumoniae MIC (mcg./ml.)	
	Median	Range	Median	Range	Median	Range
Penicillin V	0.02	0.02-0.04	0.02	0.003-0.4	0.01	0.005-0.2
Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxacillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med., 269:1019, 1963.

**with high blood levels, even in the presence of food**



Adapted from Griffith, R. S., and Block, H. R.: Current Ther. Res., 6 253, 1964.

**V-Cillin K<sup>®</sup>**  700867  
Potassium Phenoxymethyl Penicillin

(See next page for prescribing information.)



# New 500 mg. tablets...a more convenient way to give high doses



**Description:** V-Cillin K is the potassium salt of V-Cillin® (phenoxy-methyl penicillin, Lilly). This chemically improved form combines acid stability with immediate solubility and rapid absorption. Higher serum levels are obtained more rapidly with this penicillin than with equal oral doses of penicillin G. The higher serum levels and acid stability of V-Cillin K make it a more dependable penicillin for oral use.

V-Cillin K, Pediatric, is an oral solution of clinically proved V-Cillin K in teaspoon dosage form. When mixed as directed, each 5 cc. (approximately one teaspoonful) will contain 125 mg. (200,000 units) phenoxymethyl penicillin as the potassium salt.

**Indications:** V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

**Contraindication:** V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

**Warnings:** In rare instances, the use of penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type of reaction appears more frequently in patients with a history of sensitivity reactions to penicillin and in those with bronchial asthma or other allergies. Resuscitative drugs should be readily available for emergency administration. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for relief of immediate allergic manifestations and antihistamines and corticosteroids for delayed effects.

**Precautions:** V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy.

In prolonged therapy with penicillin, and particularly with high parenteral dosage schedules, frequent evaluation of the renal and hematopoietic systems is recommended.

In suspected staphylococcus infections, proper laboratory studies (including sensitivity tests) should be performed.

The use of penicillin may be associated with the overgrowth of penicillin-insensitive organisms. In such cases, its administration should be discontinued, and appropriate measures should be taken.

**Adverse Reactions:** Although serious allergic reactions are much less common with administration of oral penicillin than with intramuscular forms, manifestations of penicillin allergy may occur.

Penicillin is a substance of low toxicity, but it does possess a significant index of sensitization. The following hypersensitivity reactions associated with the use of penicillin have been reported: skin rash ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; and reactions resembling serum sickness, including chills, fever, edema, arthralgia, and prostration. Severe and often fatal anaphylaxis has occurred (see Warnings). Hemolytic anemia, leukopenia, thrombocytopenia, and nephropathy are rarely observed side-effects or are usually associated with high parenteral dosage.

**Administration and Dosage:** For Tablets V-Cillin K and for V-Cillin K Pediatric, the usual dosage ranges from 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants the daily dosage may be 50 mg. per Kg. of body weight divided in three doses.

Beta-hemolytic streptococcus infections without associated bacteremia may be treated with 200,000 to 400,000 units three times a day. Therapy should be continued for a minimum of ten days to prevent development of rheumatic fever and/or other serious complications. Dosage for routine streptococcus prophylaxis in patients with a history of rheumatic fever or congenital heart disease may be 200,000 units once or twice daily. When such patients undergo tonsillectomy, tonsil extraction, or other minor surgery, the prophylactic dose should be 500,000 units every six hours given two days prior to surgery and two days postoperatively. If oral medication is not feasible on the day of surgery, parenteral therapy should be considered. Mild to moderately severe pneumococcus pneumonia has been treated effectively with 250 mg. every six hours.

In staphylococcus infections, 400,000 units or more should be given every six to eight hours in conjunction with indicated surgical procedures.

For gonorrhea in males, 500 mg. (800,000 units) every four hours three doses may be employed; in females, 500 mg. every four hours for six doses are recommended. Refractory infections generally respond to a second treatment three to four days following completion of first. Treatment of gonorrhea with severe complications should be individualized, with prolonged and intensive treatment. Patients with suspected lesion of syphilis should have a dark-field examination before receiving penicillin and monthly serologic tests for a minimum of three months.

**How Supplied:** Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units) bottles of 50 and 100; and 250 mg. (400,000 units) and 500 mg. (800,000 units), in bottles of 24 and 100.

V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,000 units) 5 cc. of solution, in 40, 80, and 150-cc.-size packages. [032]

Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.



IRON DEFICIENCY

# ANEMIA



## Imferon® (iron dextran injection)

There's as much iron . . . 250 mg. . . in a 5 cc. ampul of Imferon (iron dextran injection) as in a pint of whole blood. When iron deficient patients are intolerant of oral iron . . . or orally administered iron proves ineffective or impractical . . . or if the patient cannot be relied upon to take oral iron as prescribed, Imferon (iron dextran injection) dependably increases hemoglobin and rapidly replenishes iron reserves. Precise dosage is easily calculated.



**IN BRIEF: ACTION AND USES:** A single dose of Imferon (iron dextran injection) will measurably begin to raise hemoglobin and a complete course of therapy will effectively rebuild iron reserves. The drug is indicated only for specifically-diagnosed cases of iron deficiency anemia and then only when oral administration of iron is ineffective or impractical. Such iron deficiency may include: patients in the last trimester of pregnancy; patients with gastrointestinal disease or those recovering from gastrointestinal surgery; patients with chronic bleeding with continual and extensive iron losses not rapidly replenishable with oral iron; patients intolerant of blood transfusion as a source of iron; infants with hypochromic anemia; patients who cannot be relied upon to take oral iron.

**COMPOSITION:** Imferon (iron dextran injection) is a well-tolerated solution of iron dextran complex providing an equivalent of 50 mg. in each cc. The solution contains 0.9% sodium chloride and has a pH of 5.2-6.0. The 10 cc. vial contains 0.5% phenol as a preservative.

**ADMINISTRATION AND DOSAGE:** Dosage, based upon body weight and Gm. Hb./100 cc. of blood, ranges from 0.5 cc. in infants to 5.0 cc. in adults, daily, every other day, or weekly. Initial test doses are advisable. The total iron requirement for the individual patient is readily obtainable from the dosage chart in the package insert. Deep intramuscular injection in the upper outer quadrant of the buttock, using a Z-track technique, (with displacement of the skin laterally prior to injection), insures absorption and will help avoid staining of the skin. A 2-inch needle is recommended for the adult of average size.

**SIDE EFFECTS:** Local and systemic side effects are few. Staining of the skin may occur. Excessive dosage, beyond the calculated need, may cause hemosiderosis. Although allergic or anaphylactoid reactions are not common, occasional severe reactions have been observed, including three fatal reactions which may have been due to Imferon (iron dextran injection). Urticaria, arthralgia, lymphadenopathy, nausea, headache and fever have occasionally been reported.

**PRECAUTIONS:** If sensitivity to test doses is manifested, the drug should not be given. Imferon (iron dextran injection) must be administered by deep intramuscular injection only. Inject only in the upper outer quadrant of the buttock, not in the arm or other exposed area.

**CONTRAINDICATIONS:** Imferon (iron dextran injection) is contraindicated in patients sensitive to iron dextran complex. Since its use is intended for the treatment of iron deficiency anemia only it is contraindicated in other anemias.

**CARCINOGENICITY POTENTIAL:** Using relatively massive doses, Imferon (iron dextran injection) has been shown to produce sarcoma in rats, mice and rabbits and possibly in hamsters, but not in guinea pigs. The risk of carcinogenesis, if any in man, following recommended therapy with Imferon (iron dextran injection) appears to be extremely small.

**SUPPLIED:** 2 cc. ampuls, boxes of 10, 5 cc. ampuls, boxes of 4, 10 cc. multiple dose vials.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201



# WHEN **ANXIETY** IS A SIGNIFICANT COMPONENT OF THE CLINICAL PROFILE

**LIBRIUM<sup>®</sup>**  
(chlordiazepoxide HCl)

Also available as  
**LIBRITABS<sup>T.M.</sup>** (chlordiazepoxide)  
5-mg, 10-mg, 25-mg tablets



Before prescribing, please consult complete product information, a summary of which follows:

**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of child-bearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver-function tests advisable during protracted therapy.

**Usual Daily Dosage:** Individualize for maximum beneficial effects. *Oral*—Adults: Mild and moderate anxiety and tension, 5 or 10 mg t.i.d. or q.i.d.; severe states, 20 or 25 mg t.i.d. or q.i.d. Geriatric patients: 5 mg b.i.d. to q.i.d. (See Precautions.)

**Supplied:** Librium<sup>®</sup> (chlordiazepoxide HCl) Capsules, 5 mg, 10 mg and 25 mg—bottles of 50. Libritabs<sup>T.M.</sup> (chlordiazepoxide) Tablets, 5 mg, 10 mg and 25 mg—bottles of 100. With respect to clinical activity, capsules and tablets are indistinguishable.

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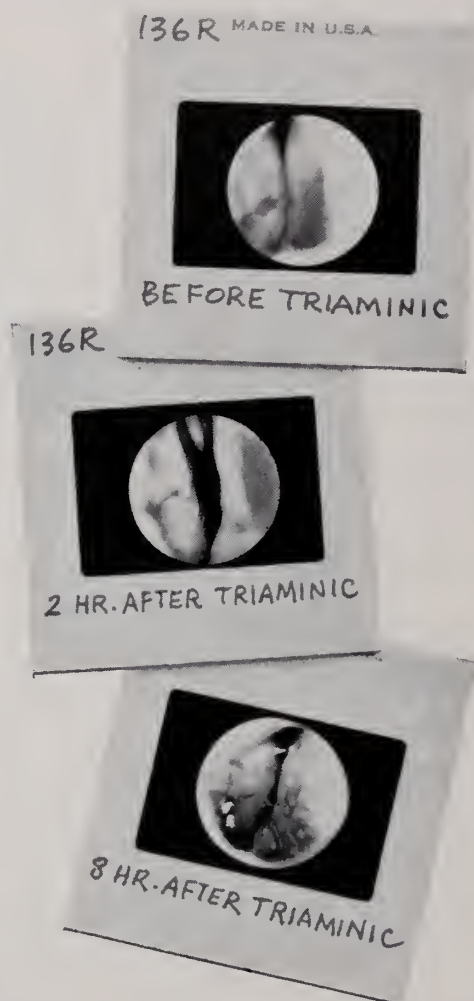
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*Warning:* Do not use during first trimester of pregnancy unless potential benefits outweigh possible risks. There have been clinical reports of congenital malformation, but causal relationship has not been proved. Animal teratogenic studies have been inconclusive.

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*Side Effects:* Dryness or unpleasant taste in the mouth, urticaria, overstimulation, insomnia, urinary frequency or nocturia, dizziness, nausea, or headache. (B)R46-560-A



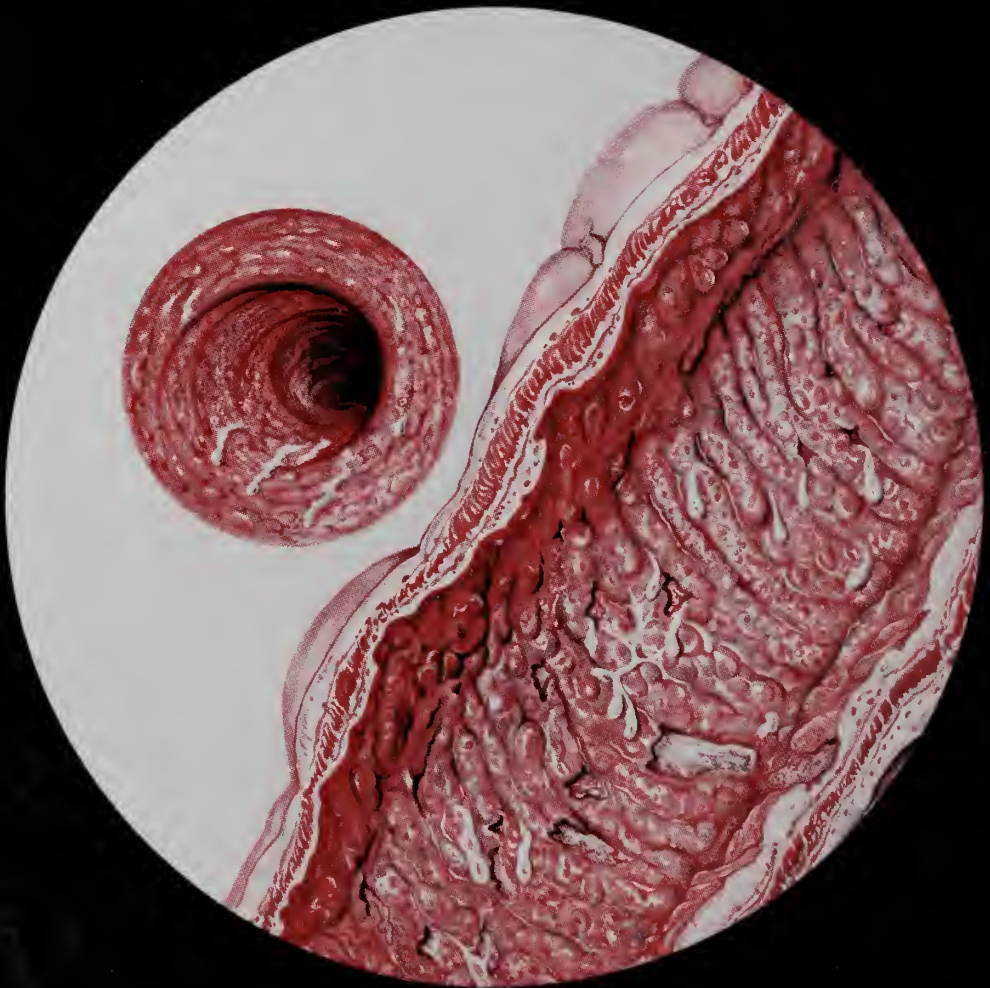
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characterized by:

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2-5 yr. . . . 1 tsp. t.i.d. (6 mg.)   
5-8 yr. . . . 1 tsp. q.i.d. (8 mg.)   
8-12 yr. . . 1 tsp. 5 times daily (10 mg.)   
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\*Based on 4 cc. per teaspoonful.

Maintenance dosage may be as low as one-fourth the initial daily dosage.

**Precautions:** Lomotil is a federally exempt narcotic preparation of very low addictive potential. Recommended dosages should not be

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- Drug induced diarrhea
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**Side Effects:** Side effects are relatively uncommon but among those reported are gastrointestinal irritation, sedation, dizziness, cutaneous manifestations, restlessness, insomnia, numbness of the extremities, headache, blurring of vision, swelling of the gums, euphoria, depression and general malaise.

1. Barowsky, H., and Schwartz, S. A.: J.A.M.A. 180:1058-1061 (June 23) 1962. 2. Cayer, D., and Sohmer, M. F.: N. Carolina Med. J. 22:600-604 (Dec.) 1961. 3. Hock, C. W.: J. Med. Ass. Georgia 50:485-488 (Oct.) 1961. 4. Van Derstappen, G., and Vandenbroucke, G.: Med. Klin. 56:962-964 (June 2) 1961. 5. Merlo, M., and Brown, C. H.: Amer. J. Gastroent. 34:625-630 (Dec.) 1960. 6. Weingarten, B.; Weiss, J., and Simon, M.: Amer. J. Gastroent. 35:628-633 (June) 1961.

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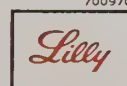
attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

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Erythromycin Estolate



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In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have also been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone. **Contraindications:** Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with pre-existing liver disease or dysfunction.

**Adverse Reactions:** Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have developed in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly, usually within forty-eight hours, if the drug is readministered to sensitive patients. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to be definitely related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalofluorescent and thymol turbidity tests, elevated serum glutamic oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has not been reported in other patients taking prolonged courses of the medication. Patients with chronic infection have been given 1 to 2 Gm. of the drug daily for periods of two to six months, and patients with rheumatic fever have taken prophylactic doses of 0.5 Gm. daily for two years without difficulty. In one group of 144 patients who received the drug daily for two years, no jaundice was noted. It was of interest that members of six of these patients' families, who were not taking the drug, had episodes of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels were determined in a group of fifty-four adults and children who took 250 mg. of Ilosone daily for an average of sixteen months as a rheumatic fever prophylaxis. The results were compared with those of a similar group of forty-four patients who received penicillin. There were no cases of jaundice in either group. Elevation of SGPT and serum alkaline phosphatase levels during the course of treatment was observed in one patient treated with Ilosone and in two patients treated with penicillin. Seven other patients in the group receiving Ilosone and four others in the penicillin group showed elevations in one of the tests at some time during administration of the drugs.

Very satisfactory therapeutic results, without toxicity, were reported in 102 pediatric patients who received short-term (ten day) courses of Ilosone in the treatment of streptococcus infections. Results of liver function tests in these patients were comparable to those in a similar control group who had received penicillin.

Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of individuals as a result of a local stimulating effect of the medication on the alimentary tract; however, the normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the use of erythromycin, there have been occasional reports of urticarial skin eruptions, and, on rare occasions, anaphylaxis.

**Administration and Dosage:** Ilosone is administered orally.

Ilosone Pulvules®, Ilosone Liquid 125, Ilosone, 125, for Oral Suspension, Ilosone Drops, Ilosone Chewable Tablets.

For infants and for children under twenty-five pounds of body weight, the usual dosage is 5 mg. per pound every six hours; for children twenty-five to fifty pounds, 125 mg. every six hours (Tablets Ilosone Chewable should be chewed or crushed at all times and swallowed with water.)

For adults and for children over fifty pounds, the usual dosage of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromycin therapy should be considered.

In the treatment of syphilis, the recommended total dosage is 20 to 30 Gm. given in divided doses for a period of ten to fifteen days. Close follow-up of the patient is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examinations of spinal fluid are recommended as part of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days is recommended. In the treatment of gonorrhea, patients with suspected lesion of syphilis should have a dark-field examination before receiving antibiotics, and monthly serologic tests should be made for a period of three months.

**How Supplied:** Pulvules Ilosone, Capsules, N.F., 125 and 250 mg. (equivalent to base), in bottles of 24 and 100.

Ilosone Liquid 125, Oral Suspension, U.S.P., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60-cc. and pint-size packages.

Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60 and 150-cc.-size packages.

Ilosone Drops, 5 mg. (equivalent to base) per drop, in 10-cc.-size packages, with dropper calibrated at 25 and 50 mg.

Tablets Ilosone Chewable, N.F., 125 mg. (equivalent to base) in bottles of 50.

**References:** 1. Griffith, R. S., and Black, H. R.: *Am. J. M. Sc.*, 247:69, 1966.  
2. Griffith, R. S., and Black, H. R.: *Antibiotics & Chemother.*, 12:398, 1966.  
3. Hirsch, H. A., Pryles, C. V., and Finland, M.: *Am. J. M. Sc.*, 239:198, 1960.

Additional information available to physicians upon request.  
Eli Lilly and Company, Indianapolis, Indiana 46206.

Lilly





# New view of an oral contraceptive at work

Although suppression of ovulation remains the primary mode of action of oral contraceptives, newer knowledge indicates that products like Norinyl-1 — a combination of both low-dosage progestogen and estrogen for the full treatment cycle — may provide multiple action that helps explain their unexcelled record of contraceptive effectiveness. This report explores the possible secondary protective mechanisms offered by combined hormonal administration.

Accumulating evidence has indicated that sparse, highly viscous cervical mucus has a possible adverse effect on the motility and survival of spermatozoa.

The estrogen-opposing progestational ingredient of Norinyl-1 (norethindrone 1 mg. with mestranol 0.05 mg.) changes the usual mid-cycle picture of a thin, watery cervical mucus. The result — a built-in barrier that appears to inhibit sperm from reaching the ovum should one be released. The inset in the adjoining photograph shows immobile spermatozoa as they appear in cervical mucus taken from a patient treated with Norinyl-1.

See last page for contraindications, precautions, side effects and dosage.

# How the estrogen-opposing action of Norinyl-1 creates cervical mucus that may be hostile to sperm penetration

Normally, estrogen activity during the fertile midcycle stimulates the production of a profuse and watery cervical mucus that permits maximum sperm motility and promotes penetration.

But what happens when Norinyl-1 is administered? Its potent progestogen, norethindrone, opposes estrogen stimulation of cervical mucus. Consequently, the amount of mucus decreases and its viscosity increases. This results in a sparse but thick mucus barrier that appears to diminish the vitality of the sperm and to impair its powers of penetration.

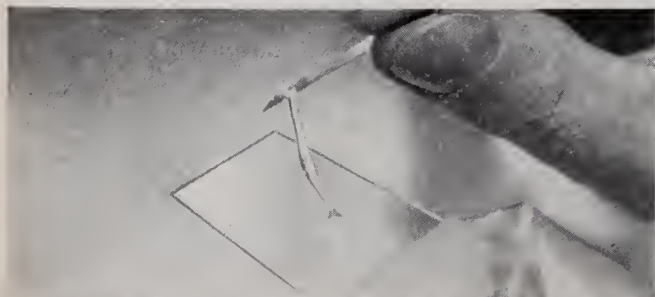
## The role of viscous cervical mucus as a secondary action of Norinyl-1

In a report on 89 patients taking this medication,\* cervical mucus obtained from cycle day 5 to cycle day 29 appeared scant and thick and exhibited little or no Spinnbarkeit.

In the opinion of this investigator, the effect on cervical mucus may be sufficient to prevent conception.

\*Cohen, M. R.: Symposium: Mechanisms of Action of Low Dosage Oral Contraceptive, Yale University Medical Center, New Haven, Conn., April 6, 1967.

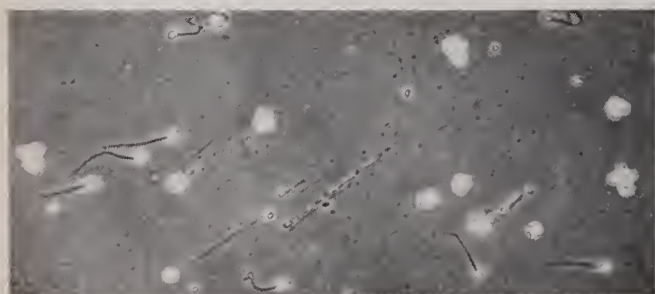
**Normal cervical mucus at midcycle in untreated patient is known to permit sperm motility... promote sperm penetration.**



Cervical mucus is thin and watery with a stretchability (Spinnbarkeit) of 15 to 20 cm.

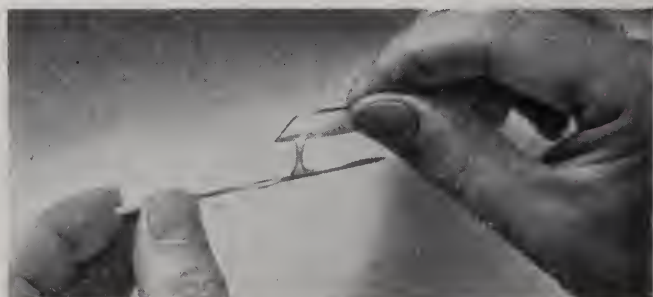


Thin, watery mucus crystallizes into this well-defined, fernlike pattern within a minute.

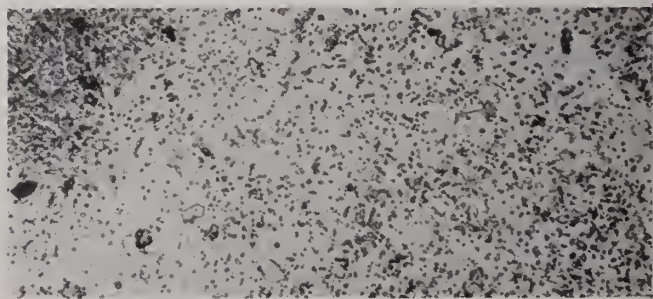


Spermatozoa appear healthy, are active and freemoving.

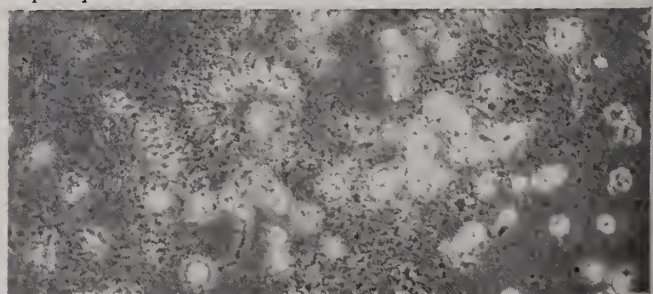
**Viscous cervical mucus at midcycle produced by Norinyl-1 appears to impair sperm vitality... inhibit penetration.**



Cervical mucus is scanty, thick and viscous. Spinnbarkeit is 1 cm. or less.



In thick, viscous cervical mucus the fern pattern is poorly defined or absent.



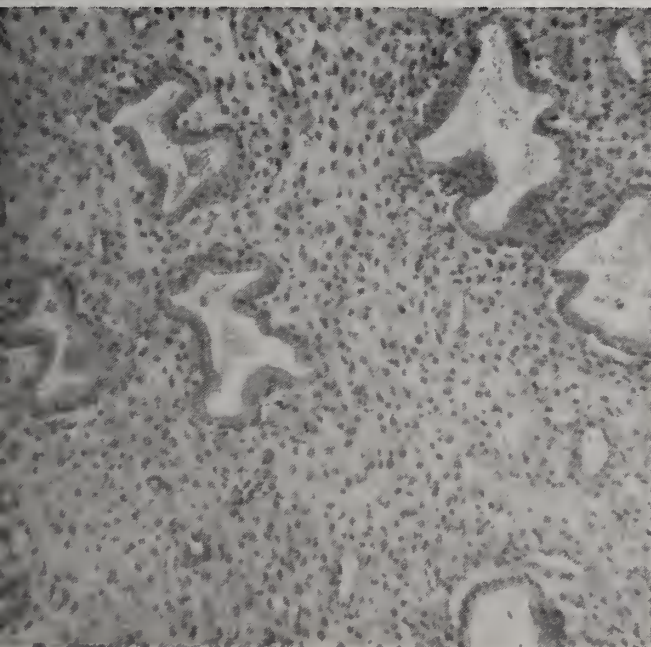
Immobile spermatozoa as they appear in cervical mucus taken from a patient treated with Norinyl-1.



# How Norinyl-1 alters normal endometrial responses— another possible protective mechanism

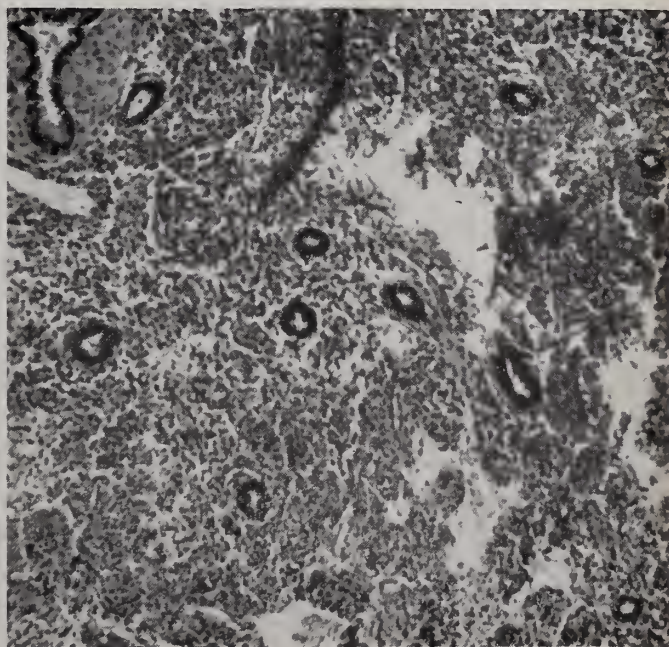
Let us suppose that an ovum is released—as occurs in an occasional, rare case—and somehow a sperm succeeds in penetrating the cervical mucus barrier. Should this come about, the additional action of Norinyl-1 may protect the patient from unwanted pregnancy. The theory is that progestogen intake makes endometrial tissue unreceptive to implantation.

Endometrium of  
untreated patient



Normally, the endometrium progresses through a proliferative phase stimulated by estrogen and a secretory phase stimulated by progesterone. During the secretory phase the endometrium is receptive to the fertilized ovum.

Endometrium produced  
by Norinyl-1



When Norinyl-1 is administered its progestogen component—norethindrone—accelerates the secretory phase and suppresses glandular and vascular development.

<sup>new</sup>  
**Norinyl-1**<sup>®</sup>  
(norethindrone 1mg  $\bar{c}$  mestranol 0.05mg) **tablets**

See last page for contraindications, precautions, side effects and dosage.



effective fertility control  
on half the previous dosage

maintains ratio  
of the established  
norethindrone/mestranol  
combination

lower cost

# new Norinyl-1<sup>®</sup>

(norethindrone 1mg.  $\bar{c}$  mestranol 0.05mg.) tablets

Reduction of oral contraceptive dosage to lowest effective levels has become a well-accepted principle of conservative medical practice. In keeping with this view, Norinyl is now available in a new strength in which both norethindrone and mestranol are reduced 50 percent. Studies show that Norinyl-1 achieves fertility control with only 1.05 mg. of combined progestogen and estrogen per tablet.

Norethindrone was first reported for use as a progestational agent in human beings in 1955. Norethindrone 2 mg. with mestranol 0.1 mg., as an oral contraceptive, is currently in use by over 2,000,000 women. Clinical experience now establishes that Norinyl-1 also amply meets the criteria of reliability and safety.\*

\*Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965.

## PRESCRIBING INFORMATION

**Contraindications:** 1. Patients with thrombophlebitis or with a history of thrombophlebitis or pulmonary embolism. 2. Liver dysfunction or disease. 3. Patients with known or suspected carcinoma of the breast or genital organs. 4. Undiagnosed vaginal bleeding.

**Warnings:** 1. Discontinue medication pending examination if there is sudden partial or complete loss of vision or if there is a sudden onset of proptosis, diplopia, or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn. 2. Since the safety of Norinyl-1 in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods, pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule, the possibility of pregnancy should be considered at the time of the first missed period. 3. Detectable amounts of the active ingredients in oral contraceptives have been identified in the milk of mothers receiving these drugs. The significance of this dose to the infant has not been determined.

**Precautions:** 1. The pretreatment physical examination should include special reference to breast and pelvic organs, as well as a Papanicolaou smear. 2. Endocrine and possibly liver function tests may be affected by treatment with Norinyl-1. Therefore, if such tests are abnormal in a patient taking Norinyl-1, it is recommended that they be repeated after the drug has been withdrawn for 2 months. 3. Under the influence of estrogen-progestogen preparations, preexisting uterine fibroids may increase in size. 4. Because these agents may cause some degree of fluid retention, conditions that may be influenced by this factor, such as epilepsy, migraine, asthma, cardiac, or renal dysfunction, require careful observation. 5. Although a cause and effect relationship has not been established, Norinyl-1 should be used with caution in patients with a history of cerebrovascular accident. 6. In relation to breakthrough bleeding, as in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In cases of undiagnosed vaginal bleeding, adequate diagnostic measures are

indicated. 7. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. 8. Any possible influence of prolonged Norinyl-1 therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. 9. A decrease in glucose tolerance has been observed in a small percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Norinyl-1 therapy. 10. Because of the occasional occurrence of thrombophlebitis and pulmonary embolism in patients taking oral contraceptives, the physician should be alert to the earliest manifestations of the disease. A cause and effect relationship has not been demonstrated. 11. Because of the effects of estrogens on epiphyseal closure, Norinyl-1 should be used judiciously in young patients in whom bone growth is not complete. 12. The age of the patient constitutes no absolute limiting factor, although treatment with Norinyl-1 may mask the onset of the climacteric. 13. The pathologist should be advised of Norinyl-1 therapy when relevant specimens are submitted.

**Side Effects:** The following adverse reactions have been observed with varying incidence in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms, breakthrough bleeding, spotting, change in menstrual flow, amenorrhea, edema, chloasma, breast changes (tenderness, enlargement and secretion), loss of scalp hair, change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately postpartum, cholestatic jaundice, erythema multiforme, erythema nodosum, hemorrhagic eruption, migraine, rash (allergic), itching, rise in blood pressure in susceptible individuals, mental depression.

The following occurrences have been observed in users of oral contraceptives. A cause and effect relationship has not been established: thrombophlebitis, pulmonary embolism, neuroocular lesions.

The following laboratory results may be

altered by the use of oral contraceptives: increased bromsulphalein retention and other hepatic function tests, coagulation tests (increase in prothrombin, factors VII, VIII, IX and X), thyroid function (increase in PBI and butanol extractable protein-bound iodine and decrease in T<sup>3</sup> values), metapyrone test, pregnanediol determination.

Other side effects reported to have occurred in association with use of this drug are dizziness, hirsutism, pains in legs, back, chest and abdomen, dysuria, drowsiness, vaginal discharge, libido increased and decreased, eruptions, hypermenorrhea, hypomenorrhea, increased appetite, G.U. infections, varicose veins, abdominal fullness, acne, headache, nervousness, allergies, blurred vision, pain in eyes, and itching in eyes. For complete clinical data, see package insert.

**Dosage and Administration:** 1. One tablet of Norinyl-1 is administered orally for 20 days beginning on day 5 of the menstrual cycle. (Count day 1 of the cycle as the first day of menstrual bleeding.) Repeat this dosage schedule for each cycle. 2. If no menstrual period occurs after a cycle of treatment (20 tablets) in which patient adhered to the schedule, the patient must be instructed to resume taking the Norinyl-1 tablets 7 days after the previous 20-day course was completed. For example, if the last pill of a previous cycle had been taken on a Sunday, then a new cycle of treatment should begin on the following Sunday. 3. In the postpartum woman, it is recommended that the first cycle of treatment should begin on day 5 of the first menstrual cycle. However, Norinyl-1 should not be administered during lactation.

**Availability:** Norinyl-1 (norethindrone 1 mg. with mestranol 0.05 mg.)—Dispensers of 20 and 60 and bottles of 250 tablets.

norethindrone — an original steroid from  
**SYNTEX**  
LABORATORIES INC., PALO ALTO, CALIF.

**A breakthrough  
in the control of pain**

**Talwin<sup>®</sup>**  
brand of  
**pentazocine**  
(as lactate)

**a potent injectable non-narcotic —  
may be used in place of morphine  
and other narcotic analgesics**



**Talwin 30 mg. relieves pain usually as quickly and effectively as morphine 10 mg.\***

**whatever the intensity of the pain**

---

**whatever the cause of the pain**

---

**whatever the site<sup>†</sup> of the pain**

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**whatever the chronicity of the pain**

---

**whatever the age<sup>††</sup> of the patient**

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**without the liability of narcotics**

---

**without the development of tolerance on prolonged use**

---

**with less risk of severe respiratory depression than with morphine**

---

**with less constipation**

---

**with less urinary retention**

---

# A breakthrough in the control of pain

**Talwin<sup>®</sup>**  
brand of  
**pentazocine**  
(as lactate)

**a potent injectable non-narcotic—  
may be used in place of morphine  
and other narcotic analgesics**

Clinical experience of more than 150 investigators with over 12,000 patients given varying dosages of Talwin shows that this potent injectable analgesic is not a narcotic.

Talwin has less risk of severe respiratory depression, urinary retention, and constipation than morphine—a great boon for postsurgical patients.

Talwin produces less nausea, vomiting and diaphoresis than meperidine.

Constipation and urinary retention are seldom a problem with Talwin.

Very rarely do hallucinations or disorientation occur (0.1% each).

No significant hepatic, renal, hematopoietic or neurologic disturbances have been reported.

Talwin is well tolerated even by the aged or very ill patients.

Used during active labor, its tolerance by the mother and newborn is comparable to meperidine's. As with all new drugs, Talwin should be used with caution in pregnant women and in women delivering premature infants.

Tolerance to the analgesic effect of Talwin has not developed with prolonged use.

Talwin gives significant relief of pain in from 15 to 20 minutes following I.M. or S.C. injection.

Talwin relieves pain usually for 3 hours or longer with a single injection; however, the duration may sometimes be less than with morphine.

**86 per cent of medical and  
surgical patients obtained  
excellent to good relief with  
Talwin 30 mg. administered  
parenterally**

\*Its duration of action may sometimes be less than that of morphine.

<sup>†</sup>Should not be used for patients with increased intracranial pressure, head injury or pathologic brain conditions.

<sup>††</sup>Until sufficient experience is gained, Talwin should not be administered to children under 12 years of age.



# Talwin

brand of pentazocine (as lactate)

## used for pain of all types

Talwin has a wide range of usefulness in surgery

Types of surgical use	Number of patients	Efficacy				
		% Exc.	% Good	Exc. + Good	% Fair	% Poor
• Preoperative	118	31	52	83%	15	2
• Postoperative	914	58	28	86%	8	6
• Pre- and postoperative	12	75	17	92%	0	8
• Minor surgery	33	30	39	69%	0	31*
• Traumatic	14	64	29	93%	7	0
• Dental	33	67	24	91%	3	6
Total patients.....1124						

Efficacy of 30 mg. Talwin I.M. and S.C. as related to types of surgical use in a cooperative study

Data in files of Department of Medical Research, Winthrop Laboratories.  
\*High incidence of poor results in minor surgery is due primarily to one study involving change of burn dressings in children; 9 of 19 patients obtained poor results with dose used.

## Talwin relieves all types of pain in acute and chronic medical disorders

Type of medical pain	Number of patients	Percentage of relief				
		Excellent	Good	Exc. + Good	Fair	Poor
• Malignancy, pain in	161	44	37	81%	8	11
• Orthopedic; see also "Arthritis"	111	53	38	91%	5	4
• Cardiovascular pain; see also "Miscellaneous medical"	96	59	27	86%	6	7
• Genitourinary pain	83	42	33	75%	16	10
• Arthritis	76	33	51	84%	12	4
• Gynecologic pain	35	57	34	91%	6	3
• Cephalalgia	21	45	41	86%	9	5
• Gastrointestinal pain	19	89	5	94%	0	5
• Chest, including <ul style="list-style-type: none"><li>• Pleurisy</li><li>• Pulmonary embolism and infarct</li><li>• Lung abscess</li></ul>	12	83	17	100%	0	0
• Miscellaneous medical, including <ul style="list-style-type: none"><li>• Peripheral vascular disease</li><li>• Thrombophlebitis</li><li>• Cervical root pain</li><li>• Facial neuralgia</li><li>• Syringomyelia</li><li>• Burns</li></ul>	108	50	39	89%	9	2
Total patients.....722						

Efficacy of 30 mg. Talwin I.M. and S.C. as related to types of medical pain in a cooperative study

Data in files of Department of Medical Research, Winthrop Laboratories.

See next page for additional product information

## Talwin relieves pain as quickly as morphine

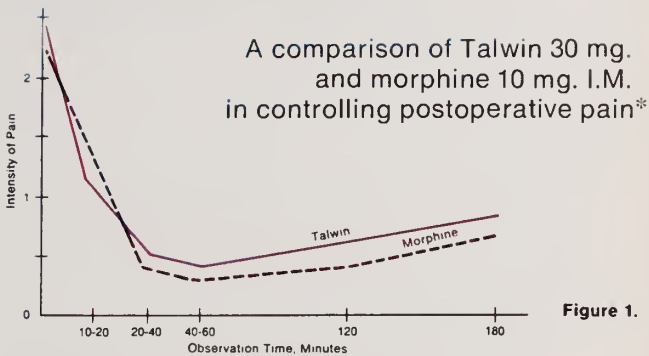
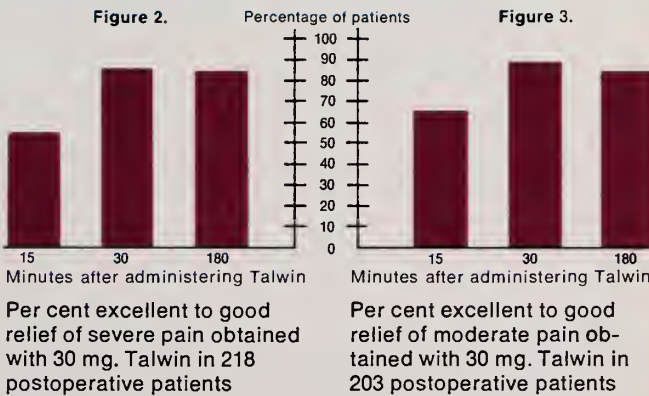


Figure 1.

Talwin 30 mg. proved equivalent to morphine 10 mg. in overall analgesic efficacy. During the early post-medication period (up to 40 minutes after drug injection), Talwin was superior in effect to morphine.

After observation periods ranging from 40 to 180 minutes there was no difference between the drugs in their effect on intensity. There were 141 and 119 complete patient records for Talwin and morphine, respectively, in this double-blind study. Other clinical investigators, studying duration, state that relief with Talwin may be obtained for up to three hours or longer, a period sometimes less than morphine's.

## Talwin is as effective for severe pain (Fig. 2)† as for moderate pain (Fig. 3)†



Per cent excellent to good relief of severe pain obtained with 30 mg. Talwin in 218 postoperative patients

Per cent excellent to good relief of moderate pain obtained with 30 mg. Talwin in 203 postoperative patients

## Talwin does not require a narcotics prescription or narcotics records

The World Health Organization Expert Committee on Dependence-Producing Drugs concluded that "...there was no need at this time for narcotics control of pentazocine [Talwin] internationally or nationally."‡

\*Storer, E. H.: Data in the files of the Sterling-Winthrop Research Institute.

†Cooperative study, data in the files of the Department of Medical Research, Winthrop Laboratories.

‡World Health Organization Technical Report Series, No. 343, 1966, p. 6.

# A breakthrough in the control of pain

# Talwin<sup>®</sup>

brand of  
**pentazocine**  
(as lactate)

a potent injectable non-narcotic—  
may be used in place of morphine  
and other narcotic analgesics

**Contraindications:** Increased Intracranial Pressure, Head Injury, or Pathologic Brain Conditions in which clouding of sensorium is undesirable. Talwin (brand of pentazocine) should not be administered in these cases, since drug-induced sedation, dizziness, nausea, or respiratory depression could be misleading.

**Precautions:** *Pregnancy.* No teratogenic or embryotoxic effects attributable to the use of Talwin have been seen in extensive reproductive studies in animals; however, like all new drugs, Talwin should be given with caution to pregnant women. A large number of patients in labor have received the drug with no adverse reactions other than those that occur with commonly used strong analgesics. However, as with other strong analgesics, Talwin should be used with caution in women delivering premature infants.

*Ambulatory Patients.* Since sedation, dizziness, and occasional euphoria have been noted, ambulatory patients should be warned not to operate machinery, drive cars, or unnecessarily expose themselves to hazards.

*Certain Respiratory Conditions.* The possibility that Talwin (brand of pentazocine) may cause respiratory depression should be considered in treatment of patients with bronchial asthma. Talwin should be administered only with caution and in low dosage to patients with respiratory depression (e.g., from other medication, uremia, or severe infection), obstructive respiratory conditions, or cyanosis.

*Patients Dependent on Narcotics.* Because Talwin is a narcotic-antagonist, patients dependent on narcotics and receiving Talwin may occasionally experience certain withdrawal symptoms. Talwin should be given with special caution to such patients. It has been observed that some patients previously given narcotic-analgesics for one month or longer had mild withdrawal symptoms when the drug was replaced with the analgesic, Talwin. After a short period of adjustment the subjects were usually able and willing to continue taking Talwin, and relief of pain was satisfactory.

*Nonaddicted Patients Receiving Narcotics.* Symptoms believed to be indicative of antagonism to the opiate may be observed rarely with administration of Talwin to patients receiving opiates for a short time. Intolerance or untoward reactions are seldom observed after administration of Talwin to patients who have received single doses or who have had limited exposure to narcotics.

*Impaired Renal or Hepatic Function.* Although laboratory tests have not indicated that Talwin (brand of pentazocine) causes or increases renal or hepatic impairment, the drug should be administered with caution to patients with such impairment. Extensive liver disease appears to predispose to greater side effects (e.g., marked apprehension, anxiety, dizziness, sleepiness) from the usual clinical dose, and may be the result of decreased metabolism of the drug by the liver.

*Myocardial Infarction.* As with all drugs, Talwin (brand of pentazocine) should be used with caution in patients with myocardial infarction who have nausea or vomiting.

*Biliary Surgery.* Until further experience is gained with the effects of Talwin on the sphincter of Oddi, the drug should be used with caution in patients about to undergo surgery of the biliary tract.

**Adverse Effects:** Talwin is relatively free from the undesirable side effects associated with morphine, such as constipation, urinary retention, or severe respiratory depression. Furthermore, Talwin produces less nausea, vomiting, and diaphoresis than meperidine.

In over 12,000 patients who received Talwin intramuscularly, subcutaneously, or intravenously, nausea, the most frequent adverse effect, occurred in approximately 5.0 per cent. In decreasing order of occurrence were vertigo, dizziness or lightheadedness; vomiting; and euphoria. Respiratory depression was reported as an adverse reaction in 1.0 per cent.

The incidence of each of the other adverse effects was well below 1.0 per cent: constipation, circulatory depression, diaphoresis, urinary retention, alteration in mood (nervousness, apprehension, depression, floating feeling), hypertension, sting on injection, headache, dry mouth, flushed skin including plethora, altered uterine contractions during labor, dermatitis including pruritus, dreams, paresthesia, and dyspnea occurred rarely after administration of Talwin (brand of pentazocine). Furthermore, each of the following adverse reactions occurred in less than 0.1 per cent: tachycardia, visual disturbance (blurred vision, diplopia and nystagmus), hallucinations, disorientation, weakness or faintness, muscle tremor, chills, allergic reactions including edema of the face, taste alteration, insomnia, diarrhea, cramps, and miosis; laryngospasm in one patient.

Talwin has not produced severe respiratory embarrassment in adults (never apnea), even with large amounts. A small number of newborn infants whose mothers received Talwin during labor had transient apnea. The incidence of temporary diminution in the rate or strength of uterine contractions is low after administration of Talwin, similar to that following meperidine hydrochloride. (In reporting no interference with normal labor in patients receiving Talwin, one investigator further stated that the drug may increase uterine activity.) Generally, no significant fetal heart rate change occurs.

Laboratory tests of blood and of liver and kidney functions have revealed no significant abnormalities. A minimum and probably insignificant increase in the per cent of eosinophils in peripheral blood counts and bone marrow occurred occasionally.

Talwin is well tolerated by patients with diabetes mellitus, and no changes in insulin requirements have been observed.

**Dosage and Administration:** *Adults, Excluding Patients in Labor.* Average recommended single parenteral dose is 30 mg., by intramuscular, subcutaneous, or intravenous route; may be repeated every three to four hours. Pain has been relieved in most patients with not more than three doses daily. Infrequently, selected patients have received single doses as high as 60 mg.

*Patients in Labor.* A single, intramuscular 30 mg. dose has been most commonly administered. An intravenous 20 mg. dose has given adequate pain relief to some patients in labor when contractions become regular, and this dose may be given two or three times at two- to three-hour intervals, as needed.

*Children Under 12 Years of Age.* Since clinical experience in children under twelve years of age is limited, the use of Talwin (brand of pentazocine) in this age group is not recommended.

*Duration of Therapy.* Patients with chronic pain who received Talwin for prolonged periods (e.g., over 300 days) experienced no withdrawal symptoms even when administration was stopped abruptly; furthermore, there was no tolerance to the analgesic effect.

**CAUTION.** Talwin should not be mixed in the same syringe with soluble barbiturates because precipitation will occur.

*Treatment of Overdosage or Respiratory Depression.* Talwin has not produced apnea or severe respiratory embarrassment in adults, even in large doses. Occasionally, however, moderate respiratory depression may occur. Means of maintaining proper oxygenation should be available in case of overdosage or respiratory depression, and methylphenidate (Ritalin<sup>®</sup>) should be administered parenterally. The usual narcotic-antagonists, such as nalorphine, are not effective respiratory stimulants for depression due to Talwin.

**How Supplied:** Ampuls of 1 mL., containing Talwin<sup>®</sup> (pentazocine) as lactate equivalent to 30 mg. base and 2.8 mg. sodium chloride, in Water for Injection. Boxes of 10, 25, and 100.

Multiple dose vials of 10 mL., each 1 mL. containing Talwin<sup>®</sup> (pentazocine) as lactate equivalent to 30 mg. base, 2 mg. acetone sodium bisulfite, 1.5 mg. sodium chloride, and 1 mg. methylparaben as preservative, in Water for Injection. Boxes of 1.

The pH of Talwin solutions is adjusted between 4 and 5 with lactic acid and sodium hydroxide.

**Winthrop**

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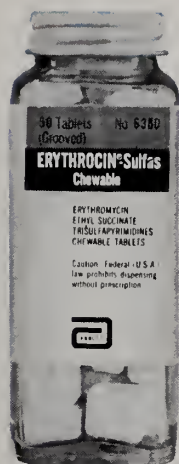






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## A clinical cure rate of 94.5%

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.



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Brief  
Summary  
on next  
page



## ERYTHROCIN®-SULFAS

### Brief Summary

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**A.H.F.S. CATEGORY 8:12.16**

**References:** 1. Abstracted from Antibiotic Sensitivity of Staphylococci Studied from November 1962 through August 1965, reported by Griffith, L.J., Staphylococcus Reference Laboratory, V.A. Hospital, Batavia, N.Y. 2. Data on file, Bristol Laboratories.

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*Guest Editorial . . . .*

“The Old Order Changeth, Yielding Place to New”

NO LONGER can the American physician sit aloof and withdrawn from the tangle of politics and public opinion. No longer is our professional independence an automatic “right” that we assume with the title “Doctor of Medicine”.

The present involvement of the Federal Government in medical practice is producing widespread changes in our lives and in our practices. Medicare is here; Medicaid is being implemented. Regional programs for Heart Disease, Cancer and Stroke are well into the planning stages. In the future are the unknown quantities called Kiddiecare and Preventicare. The 89th Congress enacted or considered such diverse bills affecting medicine as the Allied Health Training Act, the Comprehensive Public Health Amendments for State and area planning and demonstrations, the Economic Opportunity Act Amendments which establish neighborhood comprehensive health centers, the Community Mental Health Centers Act, the Vocational Rehabilitation Amendments, and many others. It is difficult to single out a field of medicine in which the Federal Government is not active or involved in active planning.

Obviously the “old order changeth.” Ten years ago Medicare was only a word of vague concern to practicing physicians who feared Government intervention in their business. As Medicare approached reality, these fears changed to outspoken condemnation and hostility. When the law was passed, organized medicine was wholly unprepared to deal with its complexities. Fortunately, Dr. James Appel and a few top-level leaders in the American Medical Association were able to organize resistance to the more onerous parts of the bill. As a result of the efforts of these few national leaders, Medicare became a workable law and also demonstrated that Government and organized medicine could work together.

When the Heart, Cancer and Stroke Legislation was proposed, more physicians realized the importance and effectiveness of active participation by individuals in government deliberations. As a result of the vigorous activity of many (mainly teachers, and among them Ken Crispell of Charlottesville) the DeBakey Law was changed from one which would have allowed Federal intervention in the *care* of these and related diseases in community hospitals as well as medical centers, to one which would emphasize postgraduate education and affect patient care secondarily, by producing better educated physicians.

When Medicaid became law it was even more evident that grassroot individual effort was essential in assuring good state implementation. No longer could the practicing physician rely on top AMA officials or small numbers of interested academic physicians to guide Federal legislation into acceptable channels. This law provides only certain guidelines to the states; it is left to the state to specify details of benefits, eligibility, reimbursement, etc. Obviously it is essential for local and state leaders to guide the writing of the laws. In California, the state and county medical societies worked closely with the state legislature, and a model Medicaid law resulted. In New York, on the other hand, the state legislature, motivated by political expediency, created a law which is the present concern of all New Yorkers as well as the Federal Government. Here the State Medical Society did not become actively involved until the law was enacted; by then, the horse was stolen. In Virginia we have a unique opportunity to participate in the enactment of Title XIX legislation. The last Legislature empowered the State Health Department to draw up plans for Virginia's involvement in this massive Federal program for financing medical care (by any yardstick much bigger than Medicare). The State Health Department, with the advice of a blue ribbon Governor's Advisory Committee has this legislation well under way. Soon it will be presented to the various budget analysts and then to the full Legislature in 1968. Virginia must pass a Medicaid Law in 1968, because if a plan is not in operation by January 1, 1970, all Federal matching funds for present welfare programs will be discontinued.

Therefore we must become knowledgeable about this proposed legislation and pass our advice on to our local representatives. We can no longer "pass the buck" to our national and academic and state leaders as we have in the past. Each legislator has a physician whose judgment he relies on in health matters. Can we not take the time to inform him of the facts about the needs existent in our state? Administration, scope of benefits, eligibility requirements, methods of providing reimbursement must become important to us. They will certainly affect us for the



rest of our professional lives. We can have physician-legislator laws we can live with, or legislator laws we discover too late are not in the best interests of our patients. Similarly we must make individual efforts to strengthen our ties with the medical schools which are planning for Heart, Cancer, and Stroke legislation. They can help us more when they know where we need help.

Indeed the "old order changeth." These programs are law and we can no longer hope that a storm of violent opposition will wash them away. Likewise, passive negativity will produce nothing more than ignorance of what is happening to each of us. We must involve ourselves in these plans and in the current negotiations necessary to make them workable laws, regardless of our personal philosophy. If we believe that we know what is best for our patients, it is up to us to say so. Loud and Clear! Thoughtfully and Calmly! To our patients, our representatives, and to all the citizens of the Commonwealth!

"It is wiser to take part in the affairs of government than to live under the government of unwise men."—PLATO

THOMAS L. GORSUCH, M.D.

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# History in Relation to Some Principles and Practices of Confederate Surgeons

ROBERT M. CAMPBELL, M.D.  
Portsmouth, Virginia

*The medical history of the Confederacy, which has not been as proficiently treated as the military and political history, is closely related to the total effort of the South.*

THE AMERICAN CONFLICT of the 1860's was one of the greatest of all wars. The gallant effort of the South against overwhelming odds is a matter of pride to every Southerner and American. The South was involved to a degree far more intensive than the North, and the per capita cost was much greater for a white population of five and one-half million than for a wealthier section of twenty-two million.<sup>1</sup> The medical history of the Confederacy, which has not been as proficiently treated as the military and political history, is closely related to the total effort of the South.

The War Between the States was fought in the last years of the medical middle ages. It was an age of crudity in medicine and surgery. During the actual fighting, Pasteur was laying the ground-work for bacteriology, and within two years after Appomattox, Lister was beginning the application of his aseptic method. X-ray was not available, and the use of blood transfusion, chemotherapeutic, and antibiotic agents were not to appear until many years in the future. Many of the concepts of treatment were patterned after the approaches and ill-founded practices of the Crimean War,

which had occurred less than ten years before. It is no wonder that recovery from wounds and disease became almost the exception, rather than the expected.

The total forces of the Confederate Army did not exceed 600,000 men, in fact only 100,000 during the last year, as compared to a Union strength of 2,800,000. More than three million cases of wounds and disease were cared for by the officers of the Medical Corps of the Confederacy, and, in addition, they were responsible for the medical needs of 250,000 Federal prisoners. From this it can be realized that on the average each Confederate soldier was treated about six times during the War. One-third of the Confederates were either killed outright on the field, or died of wounds and disease. One-third of the entire army was at one time or another receiving surgical care for wounds, while practically all of the 600,000 were sooner or later under medical treatment for disease.<sup>2</sup>

The first Surgeon General of the Confederacy was Dr. David C. De Leon who held office from May to July, 1861, when Dr. Charles H. Smith was ordered to take temporary charge.<sup>3</sup> On July 30, 1861, President Jefferson Davis appointed Dr. Samuel Preston Moore Surgeon General of the Confederate Medical Service. He was a native of South Carolina, had graduated from the Medical School of South Carolina in 1834, and, at the time of his appointment, was practicing in Little Rock, Arkansas. He had been a surgeon in the U.S. Army for 26 years, and served in the Mexican War and Indian fighting during that period.<sup>4</sup>

To form the Medical Corps, Moore obtained the services of 834 surgeons and 1668

assistant surgeons. In addition, 92 medical officers were appointed to serve the Confederate Navy, also under Moore's direction.<sup>5</sup> Seven hundred and seventy-five of those physicians were natives of Virginia, 616 being alumni of the University of Pennsylvania School of Medicine. It is of interest to note that up to 1860 there were 5,501 graduates from the University of Pennsylvania, and of this number, 4,254 (77%) were from the South. Of the Southern graduates, 1,749 were from Virginia, and 649 from North Carolina.<sup>6</sup>

Hunter McGuire, who was later to become Medical Director of the Army of the Shenandoah under the command of General Stonewall Jackson, was doing graduate work at the University of Pennsylvania School of Medicine. He went to Philadelphia ostensibly to organize a new medical school; however, he went there to persuade the Southern students to move to Southern schools en masse. After John Brown's body had been reverently shown through the North, McGuire rallied his converts to act against the "insult"—119 students from Jefferson Medical College and 15 from the University of Pennsylvania—and marched through the streets to the railroad station. Their fares were paid by the city of Richmond, and the faculties of medical schools in Richmond, Charleston, and elsewhere voted to receive the "seceding" students without charge. During December 1859 more than 300 students from Northern medical schools reached Richmond.<sup>7</sup>

With the foregoing background and orientation, picture a regiment going into action, with the field surgeon riding horseback, or trudging beside the troops, carrying his case of instruments. The securing of adequate surgical instruments was difficult, especially late in the War. Capture secured some (Federal regulation made medicines and instruments contraband of war), others were manufactured in Richmond, and some represented the unselfish contribution of widows of deceased physicians.

After the War, Dr. Hunter McGuire spoke of the resourcefulness of the Confederate surgeon. "The pliant bark of the tree made for him a good tornequet; the juice of the green persimmon, a styptic; a knitting needle with its point sharply bent, a tenaculum; and a penknife, a scapel. I have seen him break off one prong of a common table fork, bend the point of the other prong, and with it elevate the bone and depressed fracture of the skull and save life. Long before we knew the use of the porcelain tipped probe for finding bullets, I have seen him use a piece of soft pine wood and bring it out of the wound marked by the leaded ball."<sup>8</sup>

Surgeon W. W. Keen related in a different vein: "We operated in old blood stained and often pus stained coats. We operated with clean hands in the social sense, but they were undisinfected hands. We used undisinfected instruments from undisinfected plush cases, and still worse, used marine sponges which had been used in prior pus cases and had been only washed in tap water. If a sponge or an instrument fell on the floor it was washed and squeezed in a basin of tap water and used as though it were clean."<sup>9</sup>

Former reference texts or manuals of surgery, as applied to military surgery, were few and only three were in general use. The first of these was published by Confederate Surgeon John J. Chisolm, who became Professor of Surgery at the Medical College of South Carolina at age twenty eight. When Fort Sumter was attacked, he was present to aid in caring for the wounded, and seeing that there would undoubtedly ensue a long struggle, he went to work on a *Manual of Military Surgery*, which was ready for distribution to the Medical Department by the time of the Battle of Bull Run in 1861.<sup>10</sup>

The second of the manuals was *An Epitome of Practical Surgery for Field and Hospital*, by Surgeon Edward Warren, appearing in 1862 and published by West and Johnson, 145 Main Street, Richmond, Virginia. Warren, prior to becoming Surgeon



General of North Carolina, was Professor of Surgery at the University of Maryland School of Medicine.<sup>11</sup>

Surgical practice during the War is well set forth in the third publication, *A Manual of Military Surgery*, prepared for the use of the Confederate States of America by order of the Surgeon General, and was published in 1863 by Ayres and Wade, in Richmond.<sup>12</sup> This manual is similar in content to those of Chisolm and Warren, but contains some new and corrected information resulting from experiences in the early part of the War.

Probably the most interesting published product of the War was the *Confederate States Medical and Surgical Journal*, published under the auspices of the Surgeon General. First appearing in January 1864, this journal enjoyed a lifetime of fourteen consecutive months.

Another academic product was the organization of the Association of Army and Navy Surgeons of the Confederate States, during the latter part of August 1863, while assembled at the Medical College of Virginia, with Surgeon Middleton Michel acting chairman. Surgeon General S. P. Moore was elected President, and Professor J. B. McCaw, 1st Vice-President.<sup>13</sup>

To be wounded in the Civil war meant, in most cases, to be dead, or an amputee. A major contributing factor was the so called "Minie ball", a new instrument of war introduced in 1855, which produced a new and destructive type wound, with which the surgeons had had no experience.

The "Minie ball" was not a ball, but an oblong bullet. It was developed as an improvement over the spherical musket ball by Captain C. E. Minié of France. Minié's bullet had an iron cup in its base which was driven forward by the force of the explosion to expand the lead. An American, James H. Burton, Assistant Master Armorer at the Harper's Ferry Armory, found that the iron was not needed, and thought if the bullet was properly designed, the gases would spread the sides outward without it.

His bullet was cheaper and easier to make, and was quickly adopted and used in the Civil War. Although everyone called them "Minie balls", they were really Burton's.<sup>14</sup>

The Minie ball made for worse wounds than modern steel jacketed cartridges. The lead bullet traveling at low velocity, readily lost shape on impact, frequently lodged in the tissues, often carried with it particles of clothing and skin, and almost invariably left an infected wound. Surgeon E. Lloyd Howard (Surg. 27th Reg't., N.C.T., Cooke's Brigade, Army of Northern Virginia) reported that wounds inflicted by this missile were characterized by extensive fissuring and comminution, such as was rarely seen with the old round, smooth-bare ball of the musket. The form of the conical bullet gave it the power of the wedge in flight, losing its velocity rapidly on entering denser substances, assumed and left an irregular path, exerting its destructive influence over a wider sphere.<sup>15</sup>

The magnitude of gunshot wounds is reflected in the Confederate States Gunshot Wound Report totals for 1861-1862:<sup>16</sup>

Killed in battle: 8,087

Field: 29,569 cases; 1,623 deaths, and 493 discharges.

Hospitals: 47,724 cases; 2,618 deaths, and 742 discharges.

The surgical approach to the wounds was archaic by our standards. The surgeons of that day still believe in "laudable pus". They believed suppuration was a normal and necessary part of tissue repair and were astonished when an occasional wound healed without it. However, the Association of Army and Navy Surgeons of the Confederate States, in a meeting regarding the healing of gunshot wounds by first intention, allowed that observations from authentic sources were adduced to justify the conclusion that such an event, even under the destructive influence of an agent like the "Minie ball", was not impossible.<sup>17</sup>

Surgeon F. Sorrel (Inspector of Hospitals for the Army of Northern Virginia) was

reluctant to compromise in his report: "Frequent cases of gunshot wounds, healing by first intention, have been reported. It is indifferent to understand how this can be so, when all our theories of repair and restoration of lost tissues have been based on inflammatory action, leading, of course, to suppuration and granulation."<sup>18</sup>

In keeping with one of the basic therapeutic dictums of the day was the modification prescribed by Professor J. L. Cabell (University of Virginia, Surgeon P.A.C.S.): "I have obtained excellent results in cases of protracted suppuration by the use of *Malt liquors*, when distilled spirits had altogether failed, and had even proved hurtful. They promote sleep, they are directly nutritious, and they increase the appetite and the powers of digestion. If their manufacture were encouraged, very much of the alcoholic stimulus now uselessly given hospital patients might be saved."<sup>19</sup>

Being more specific with instructions concerning wound treatment, Surgeon Chisolm advised: "In removing subcutaneous foreign bodies, do not cut down directly upon them, as it will destroy the edge of the knife—a sad accident in field practice, where no conveniences exist for putting instruments in order."<sup>20</sup>

Chisolm also advocated the conversion of gunshot wounds into incised wounds as a means of speedy cure and "many reliable observations during the progress of this war force us to conclude that gunshot wounds do, under certain circumstances and when least be expected, get well by the first intention."<sup>21</sup>

The type suture used was usually dictated by the material most readily available. Silk, flax, cotton (properly waxed), silver, lead, copper, and, rarely, gold or platinum were used. "Saddler's silk" was cotton threads twisted to the proper size. Horsehair, frequently used, was boiled to make it pliable and soft, and thus, accidentally, was rendered sterile.

Gunshot wounds of the extremities, constituting about 65% of all wounds, was the

chief field for surgical intervention. If the wound required more than simple probing and dressing, amputation was usually elected, especially in the early years of the War. The general opinion concerning amputation was "that every hour the humane operation is delayed diminishes the chance of a favorable issue." The ultimate mortality rates for amputation were appalling: 22% for forearm; 37% for arm; 43% for leg; and 73% for mid and lower thigh. Upper thigh amputation was almost 100% fatal; however, a few successes were reported.<sup>22</sup>

Gunshot wounds of the abdomen were regarded as almost certainly fatal. Except when it was necessary to return protruding viscera, no operations were performed, it being believed that when this important cavity was once penetrated death was the inevitable result, and the surgeon could do little more than to soothe and relieve by the administration of opium. Wounds of the chest were regarded as hardly less serious. If the patient was sufficiently strong, bleeding from a large vein until syncope intervened was advised. Toward the latter part of the War, the status of bleeding was becoming more and more doubted.<sup>23</sup>

Regarding perforating wounds of the abdomen, the *Manual of Military Surgery* instructs as follows:<sup>24</sup>

1. Give opium freely and frequently, with the double object, viz: To control the peristaltic action, which alone can prevent extravasation of the contents into the peritoneal cavity, and for its antiphlogistic effect, to equalize the circulation, allay pain, suspend nervous irritability, and prevent inflammation.
2. Avoid the use of purgatives.

Cold water dressings was the big thing of the day. They were applied by cloths or lint wet with cold water; by irrigation or *guttatim*; and by wetted cloths, covered with a greased rag or oiled silk to prevent evaporation and shield the wound from the injurious effects of air, or, still more ele-



gantly, by the application of wet spongipiline. The last method of using cold water, converts it gradually into a warm water dressing. The effect contemplated by the use of the dressing was reduction of temperature and sedation. The benefit of the treatment depended on not using it too soon or too long; but only in modifying and restraining the inflammation process. A certain amount of inflammation need be present in order that the wound progress favorably, and it was in modifying and measuring the reaction that cold water applications were useful, for repair of the parts could be prevented by too great, and delayed by too little action.<sup>25</sup>

Flaxseed or bread poultices were often employed as dressings. Raw cotton, baked or charred in the oven, was commonly used, and hence was rendered relatively aseptic.

Hemorrhage, either "primary" or "secondary", was referred to as the "terror of the surgeon as well as the patient",<sup>26</sup> and its prevention or management was constantly under discussion. It was generally practiced that should digital pressure, styptics, and the administration of opium fail, ligation was resorted to. More theoretical, and probably less practical, some surgeons felt that the "nervous depression" so common with gunshot wounds, with its tendency to syncope, and its control over the circulatory organs, checked the impulse and supply of blood through injured vessels, and promoted the formation of clots.<sup>27</sup> Surgeons who favored ligation fell into two schools—those who followed Hunter's principle of tying the artery above the seat of the wound, and those who favored Mr. Guthrie's method of ligating in the wound.

"Hospital gangrene" was the great scourge of the armies and the hospitals. This surgical disease, frequently identified in its stages of progression by other diagnostic titles, was principally responsible for the delayed mortality of wounded in the hospitals. It was actually a composite progression of infection, starting with staphylococcus and mixed anaerobic inflammation, advancing

to progressive gangrene, and usually terminating with tetanus, gas gangrene, and/or septicemia. It was recognized, however, that the disease was not limited to wounds of an unhealthy character.

Professor Warren (Surg. Gen. of the State of North Carolina), described hospital gangrene as a disease of debility, resulting from the influence of a blood poison acting on an infeeblled constitution, and being both contagious and infectious. The symptoms were feverishness, loss of appetite, sleeplessness, coated tongue, and deranged bowels, followed by a dry and painful condition of the wound; the appearance of an ash-colored slough, soft and pulpy; engorgement of the neighboring skin with eversion and undermining of the wound edges—being of a livid red color—; and, finally, the complete breaking down of the dying tissue, with the development of a thick and dirty fluid with a peculiarly offensive odor. The mortification extended rapidly and the system sank under its baneful influence.<sup>28</sup>

The general mode of treatment, as presented in Warren's *Epitome of Practical Surgery*, consisted of sustaining the system with tonics and stimulants, and destroying the poisonous ichor, from which the local and general poisoning resulted. The first indication was accomplished by the free use of quinine, iron, and brandy; while the second was fulfilled by such remedies as the actual cautery, caustic potash, nitrate of silver, tincture of iodine, creosote, chloride of iron, lemon juice, pyroligneous acid, nitric acid, muriotic acid, etc., followed by irrigation. To allay pain, calm nervous disturbance, insure sleep, etc., opium was freely used. "But above all things, *remove the patient from the infected atmosphere*; and surround him with those things which hygiene and humanity demand for his health and comfort."

Chloroform was the anesthetic of choice for the Confederate surgeons, while ether was favored by those of the Union. The *Manual of Military Surgery* advised that, in



all painful operations, chloroform should be freely administered to produce the desired anesthesia. Far too often this was not done. It was recognized that like all valuable medicinal agents, which when taken in overdose are poisons, it could remove suffering or destroy life according to its administration. Its dangers were avoided by never pushing its inhalation to stertorous breathing, but by stopping its use as soon as insensibility was obtained.<sup>29</sup> Though various methods and apparatus had been contrived for the administration of chloroform, the ordinary method of presenting it on a small sponge close to the nostrils was considered easier, safer, and economical.

Professor Warren considered the use of chloroform advantageous because:<sup>30</sup>

1. The induction of tranquility so that the patient came entirely under the control of the surgeon.
2. The arrest of hemorrhage during the operation.
3. The abolition of all pain—a fact which improved the *morale* of both the operator and patient with reference to the operation.

Dr. Hunter McGuire declared that “in the corps to which I was attached, chloroform was given over 28,000 times and no death was ascribed to its use.”<sup>31</sup>

As the War advanced the Confederate surgeons became more sophisticated and erudite, adopting and putting into practical use new procedures and apparatus, some developed in England and on the Continent, and some of their own. One of these was the use of Nelaton’s probe and canula forceps for the detection and removal of embedded or impacted bullets.

Surgeon James Bolton, of Richmond, first reported the use of the instruments in successfully locating and removing a ball impacted in the outer condyle of the femur of a twenty-one year old student-soldier in the Rockbridge artillery, wounded on December 20, 1862, at Fredericksburg.<sup>32</sup> Bolton’s operation took place on November

5, 1864. The probe, with a white porcelain bulb tip, was used to explore the wound until lead marks appeared on the porcelain. The canula forceps was then introduced to the suspected site of the bullet, the slide pushed down and a small piece of lead nipped-off to confirm the location. The ball was then seized with the forceps, with the ratchet tightened to prevent slipping, and the ball was dislodged and removed.

The instruments were invented by the French surgeon Nelaton, for the purpose of exploring a gunshot wound received by the famous Garibaldi at the time of this capture. The ball having buried itself in the foot, it was impossible, by ordinary methods, to distinguish it from the bony structure. Garibaldi was taken to Paris and placed under the care of Nelaton, who devised the probes for the occasion, and was able to locate the ball and extract it.

An American innovation to surgical technique during the Civil War, was treatment of penetrating wounds of the chest by “the American plan of hermetically sealing”, as it was called abroad.<sup>33</sup>

All accessible foreign bodies having been removed, the wound was debrided cleanly down to the ribs, then the edges of the wound were brought together with silver sutures deeply inserted, at not more than a quarter of an inch apart, and secured by twisting the ends. The surface was carefully dried, and, with a camel’s hair brush, a free coating of collodion was applied, allowed to dry, and repeated. For greater security, shreds of charpie were arranged crosswise over the wound and cemented with collodion. Greater protection was afforded by placing a dossil of lint over the wound and securing with adhesive tape.

If there was a tendency to undue heat in the part, cold affusion was applied. The sutures were not removed until healing by first intention was complete. Should supuration occur, “so as to produce distressing dyspnea”, a trocar was introduced at the most dependent point, taking care to avoid the admission of air.

Another American first was "Smith's anterior splint", developed by Professor Nathan R. Smith of Baltimore, Professor of Surgery, University of Maryland Medical School, "to correct the ungainly and uncomfortable appearance presented by the unfortunates undergoing injudicial suspension by their lower extremities, and to prevent excoriations, ulcerations, abscesses, and deformities of all sorts."<sup>34</sup>

The splint was made of wood or wire, being bandaged from end-to-end for neatness and compactness. The patient was placed on his back and the sound limb was taken as a criterion for proper measurement for length and flexures. Cotton batting of sufficient thickness was placed along the anterior surface of the limb, and the splint applied closely, using roller bandage, from toe to groin.

A double-hooked cord was attached to the splint, to which was attached a cord passing through a staple in the ceiling, so as to hang over the center of the patella. The cord tended to become vertical, while the limb tended to become horizontal, and the resultant force of the two forces pulled along the course of the fractured femur to promote reduction and maintenance of position.

A Confederate first was the antecedent of the present-day Roger Anderson apparatus for extramedullary fixation of fractures, invented by Surgeon James Bolton, P.A.C.S.<sup>35</sup> The apparatus consisted of two steel rods, 3 in. in length, cut at one end into a screw  $3/8$  in. long. To the other end was attached, at right angles, a hollow cylinder, having on its upper surface a screw. A steel rod, 5 in. long, completed the instrument.

The patient was anesthetized and powerful extension was used until the limb was brought to proper length. The point of a scapel was then thrust down to each fragment, and a hole was drilled in each to the medullary canal. The rods were screwed into the holes. The ends of the bone were then adjusted by pressure on one rod, and

traction on the other. When adjustment was complete, and the cylinders were in line with each other, the rod was then passed through them and secured by screws. The rod was of necessity parallel with the shaft of the bone, and the only motion then possible was a rotary one upon the screws. This was prevented by splints on opposite sides of the thigh, or by applying another instrument at right angles to the first.

One of the least understood problems of the day, and one commanding a great share of professional discussion, concerned the treatment of traumatic aneurysm. It was generally agreed that every attempt to cure aneurysm rested on the principle of obliterating the artery at the seat of the disease, and turning the current of blood into other and more circuitous routes.

In their attempts to imitate nature in its spontaneous cure, by the gradual deposit of fibrin in the aneurysm and the ultimate occlusion of the vessel, the surgeons were influenced by the concept of Hunter, who ligated the artery between the heart and the sac; the "ingenious" method of Brasdor, who produced a reflex stasis in the sac by tying the distal portion of the artery; and "the direct, but hazardous" effort to extirpate the tumor by laying open the sac and ligating both ends of the vessel.

During the latter half of the War, some surgeons believed that the attempt to cure "the formidable surgical condition" by compression, either by prolonged digital or instrumental means, incorporated the same idea. The procedure was held advantageous over the process by ligature, for it avoided the necessity of a dangerous surgical operation, and left the parts approximating as closely as possible to a natural state.

The aneurysm instrument, the invention of Mr. Earnest Hart, of Marylebone Hospital, was enthusiastically applied by several Confederate surgeons who said it was "so simple as scarcely to require an explanation." It was applied by a broad strap to the body, leaving the limb entirely free from general pressure. The compressor was



turned down on its pivot and adjusted over the point of selection. The amount of pressure was registered by the action of the spiral spring on which the pad rested, a dial plate gave the number of pounds weight thrown upon the artery at any time.<sup>36</sup>

A user of the invention remarked: "Such an instrument as this offers all the advantages of digital compression, and does not require relays of careful and patient assistants."

However misconceived were some of the practices, and misguided were some of the professional judgments, the spirit and intent of the Confederate surgeons were sincere and loyal. Their efforts and experiences were well rewarded. The close of the War Between the States initiated a period of change, with some surgical minds projecting new light into the dawn of awakening and a new day of surgical principles and judgment. Refer, for example, to the "Thoughts on Surgery, Operative and Conservative, Suggested by a Visit to the Battlefields and Hospitals of the Army of Tennessee", by Surgeon G. M. B. Maughs, P.A.C.S.:

"That a great desire should exist upon the part of hundreds of young physicians, who by the experiences of the times had suddenly been transformed into army surgeons, to perform operations was most natural. And that many limbs should have been sacrificed to the want of, and desire to obtain, experience during the early periods of the war, was to be expected. But, with all these chances against the retention of a wounded limb, we might reasonably suppose that years continuance of this most destructive war of modern times, with the thousands of mutilated men all over the land—with thousands more who have lost their lives by, or in despite of, the operations to which they have been subjected—would have sufficed to gratify the penchant for lopping-off limbs with even the most ambitious. That it has not done so, how-

ever, will be apparent to any surgeon who will visit the battlefield, where cases of compound fracture are condemned to the knife with as little hesitancy as if men's limbs, like those of the salamander, were reproduced with great certainty."<sup>37</sup>

No better witness to the quality of the service of the Confederate Medical Corps can be found than the highest official of the Confederacy, President Jefferson Davis, when he stated, "It would be quite beyond my power to do justice to the skill and knowledge with which the Medical Corps performed their task."<sup>38</sup>

The trials and tribulations of military service medical officers are not limited to their professional duties, and such was the case with the Confederate surgeons. A major problem was the constant controversy over furloughs for convalescents. It appears that the regimental commander rather than the medical officer frequently made the decision.

One of the most famous of Confederate cavalry leaders, General Nathan Bedford Forrest, of "git thar the furstest with th' mostest" fame, apparently accepted this obligation as his own, as illustrated by the following brief but crystal-clear rejection of a request for a convalescent leave. Although he lacked formal education, Forrest had no trouble in conveying his meaning by pen. His surviving writing is clear, direct and distinctly to the point, despite unconventional spelling. He would not be bothered with such extra and entirely unnecessary letters as the "A" in "Hedquarters", nor did he pay attention to such letters as the silent "GH" in so simple a word as "fite". He spelled as he fought, by ear, but there could be no room to doubt his meaning when he wrote across the face of a three-times persistently repeated application for a convalescent furlough, "I hav don tole you twict godamit no!"<sup>39</sup>

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### Anti-Measles Campaign

There were fewer reported measles (rubella) cases in the first half of this year than in any comparable period since U.S. record-keeping began, in 1912. This is an indication of success for the anti-measles campaigns being conducted by the American Medical Association, the U.S. Public Health Service, and other organizations.

There were 55,693 reported measles cases in the first 28 weeks of this year—less than a third the total in the same period last year, according to the National Communicable Disease Center of the USPHS. The number is less than an eighth of the corresponding 449,997 cases for 1964, a peak year of measles.

The Public Health Service points out, however, that a seasonal peak of infection in late February and early March was still apparent this year, although much smaller than in previous years.

To prevent this serious disease, the AMA is urging that every infant be immunized when he is about one year old. All children over this age who have not received one of the safe, effective measles vaccines and who have not had measles, should be immunized now.

During the first half of this year, 26 states had fewer than 25 reported measles cases per 100,000 population. Only 16 states had this low a rate at the same time last year.

# Recent Advances in Treatment of Skin Cancer of the Face

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*Cancer of the skin of the face is usually a simple problem when there is early diagnosis and treatment. There have been many improvements in the treatment not only of the early lesion but of the more advanced cancer as well.*

THE TREATMENT OF CANCER of the skin of the face has undergone many phases. The most important factor in the improvement of cure rates is education of the patient and the physician. A new

programs by cancer societies, and local, state, and federal government programs. These programs have been criticized for producing cancerphobia, but the small number of individuals who have been unduly alarmed is more than compensated for by the large number of patients who have sought early medical advice.

Treatment of the early cancer of the skin of the face is usually a simple problem. Some, through ignorance, will delay seeking care until more fearful complications (Fig. 1) such as bleeding, infection, loss of eyesight or destruction of a vital part force them to see their physician. The general practitioner, who initially sees 90% of the cancers of the skin of the face, has become very sophisticated in his diagnostic abilities. In



Fig. 1. This 62-year-old school teacher had been watching a "sore" on her cheek (A) enlarge for seven years. After radical resection of the basal cell carcinoma which had invaded the left orbit, a pedicle flap (B) from the neck was used to reconstruct the facial defects. A fogged lens (C) provides her with additional cosmetic improvement.

awareness of changes that are significant in malignant degeneration of skin lesions has been the result of widespread educational

practically every instance in which a patient is referred to us he has been told that this is a basal cell carcinoma, a squamous carci-

noma or whatever the lesion appears to be, and what we will probably do.

Better follow-up techniques have been developed from the education of both the physician and the patient. This is especially important in the elderly because of their apathy and indifference to matters of health and the greater increased possibility of more carcinomata developing in aged skin. Education of the patient and physician has been the major advance in the treatment of cancer of the skin of the face.

Another very important advance has occurred in the area of prevention. This is related to the understanding of the important role which solar irradiation plays in the development of these lesions. Studies<sup>1</sup> have demonstrated the relationship of ultraviolet irradiation and the development of squamous cell carcinoma. Also, a correlation between the number of basal cell carcinomas and the number of sebaceous glands in the area does exist.<sup>2</sup> With the very large number of sebaceous glands of the face one can understand why 90% of all basal cell CA's of the skin are found on the face. The geographical variations which occur with the incidence of cancer of the skin of the face has been well documented<sup>3</sup> with each 3°48' of latitude (approximately 265 miles) going south toward the equator doubling the percentage increase in cancer of the skin. It has been estimated that over 50% of the exposure to skin is due to reflected light rays either from water, sand, snow, or similar surfaces.

In addition to wearing protective clothing, e.g., broad-brimmed hats, sunglasses, and long-sleeved shirts, the development of effective sun screens has been an important advance in prevention of heavy sun exposure. In 1928 the first commercial sun screens were developed with<sup>4</sup> the primary ingredients being Benzyl Salicylate and Benzyl Cinnamate. Since then Para-amino-benzoic acid (PABA) has become the most widely used active ingredient in commercial suntan creams. PABA and other ingredients

which are effective in promoting melanin production and subsequent tanning have been only partially effective in preventing skin injury from solar rays. Newer chemical compounds which have the ability to absorb a wider range of solar irradiation in the 2000 Å-6500 Å region have been developed. This new spectrum of protection includes the long wave length ultraviolet rays which are greatly responsible for the development of skin cancer as well as the visible light rays which previously were not completely shielded by the PABA creams. One of the most remarkable of these compounds is the Benzophenone group.<sup>5</sup> Other drugs, including Methylantranilate, have also been successful to a lesser extent in absorbing a wider spectrum of the sun's rays.

The advertising techniques used to sell suntan creams have convinced the American public of the importance of having a beautiful and attractive tan. Very few are aware of the hazards resulting from chronic exposure to sunlight. Very few realize the changes of skin related to chronic exposure and the reasons for the development of dry, coarse and leathery skin, pigmented changes, and senile atrophy of the skin of the face with subsequent severe and premature wrinkling. We have all seen the 70-year-old woman with an aged, wrinkled face (Fig 2) who on examination will have soft, smooth skin over her lower chest, breast, and upper abdominal areas. It is a paradox that the young woman in her desire to appear more beautiful in her youthful years when she is most attractive will indulge in long hours of sun exposure to obtain a beautifying tan which in later years will be primarily responsible for severe facial changes of aging. If she would be appropriately cautioned, not only would her beauty be longer lasting, but the development of skin cancer would be markedly decreased.

Tanning creams which have become more effective in darkening the skin with a minimum exposure to the sun have decreased



the need for chronic sun exposure among the sun worshipper group. These creams promote biological alterations of the melanin producing cells of the dermis and if



Fig. 2. This elderly lady exhibits the typical changes of aging that would occur with chronic exposure to sunlight. Note the deeply furrowed wrinkles related to damage of elastic tissue fibers in the dermis.

used appropriately are quite safe." A small percentage of people may develop photosensitization of the skin to these drugs.

It is well recognized that skin cancer tends to develop more frequently in blond individuals<sup>7</sup> with the "Scotch-type" skin, (Fig. 3) blond hair and beard, blue eyes, thin and dry skin, and ruddy cheeks. Even though skin cancer does occur it is infrequently seen in Negroes, dark-skinned individuals of Mediterranean descent, South Americans, and Orientals. It was thought that this disease was more predominant in males, but this has now been recognized to be related to their outdoor occupations, e.g., farmers, ranchers, fishermen, sailors, and their exposure to long periods of sunlight and irritation by the elements.

More knowledge<sup>8</sup> of the various unusual circumstances which can produce cancer of the skin of the face has led to earlier treatment. Acute trauma has been incriminated as an etiological factor. (Fig. 4). Some keratoses of the face previously thought to be always benign have been reported to be related to the development of squamous carcinoma. Old untreated scars in exposed areas or regions of frequent trauma, and their de-



Fig. 3. This 67-year-old blond-haired farmer has had his fair skin sunburned many times. The squamous cell carcinoma of the right cheek area has invaded the adjacent ear, the superficial lobe of the parotid, and has metastasized to the superior, regional neck nodes. (B) After wide excision of the carcinoma and discontinuity neck dissection, he is free of tumor after seven years. Note the split-thickness skin graft which was utilized to reconstruct the defect of the cheek.

generation into squamous carcinoma has been better documented.<sup>9</sup> The degeneration of untreated benign lesions, such as junctional

reluctance to adequately excise a lesion completely has been decreased since he knows a total reconstruction of the area can be



Fig. 4. (A) This 32-year-old welder received a welding spark burn six weeks previously. The burn did not heal, and a basal cell carcinoma developed in the area almost immediately. This was treated by simple excision. (B) This 52-year-old grocery man received thermal burns to his left neck and scalp area 17 years previously. The ear and surrounding structures were markedly destroyed and allowed to heal without grafting. Fifteen years after the burn, squamous carcinoma developed in the central portion of the scar. (C) After radical resection of the carcinoma and regional neck nodes, no evidences of recurrence have been noted after six years. Note the ear prosthesis. (D) This 23-year-old Marine Corps sergeant received a cigarette burn to the right lower cheek in a bunkhouse fracas 18 months previously. This basal cell carcinoma first developed three months later. Elliptical excision was performed.

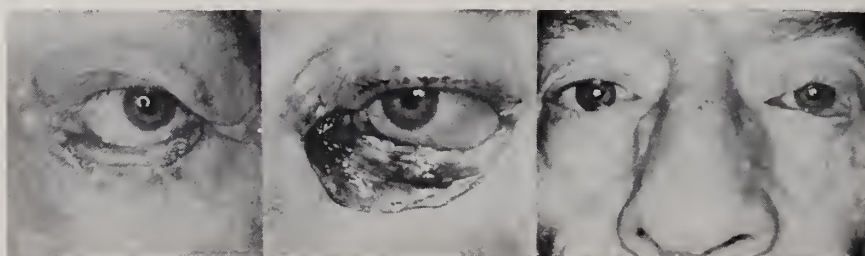


Fig. 5. (A) This 58-year-old attorney first noted a lesion of the left lower eyelid 25 years ago. This was treated with irradiation at three separate intervals. Recurrences developed. (B) A wide excision of all of the tissue involved by the basal cell carcinoma resulted in a complete resection of the entire lower eyelid. (C) Primary reconstruction was performed using a tarsal plate transfer from the adjacent upper lid and a full-thickness graft from the opposite normal upper lid. There is no evidence of recurrence in four years.

nevi in areas of trauma into malignant melanoma is now better understood. Recently reports<sup>10</sup> have appeared of malignant degeneration of the hairy pigmented nevus which in the past has been allowed to remain on the scalp, neck, face, or other parts of the skin of the body.

Another area of major advances in treatment of cancer of the skin of the face has been in the improvement of surgical techniques. With the development of more satisfactory reconstructive operations for rebuilding parts of the face, such as eyelids, nose, ears, etc. (Figs. 5, 6), the surgeon's

performed. This decreases the degree of recurrence and morbidity.

During the past few years the technique of surgical planing<sup>11</sup> has been applied to the treatment of the patient with multiple, superficial CA's and keratoses of his forehead. (Fig. 7) If a wide area of the face is involved by solar malignancies a deep dermabrasion of the area is performed. This removes all of the premalignant and superficial malignant lesions, as well as benign lesions which if allowed to continue developing unrestrained might degenerate into carcinoma. Any deep carcinomas remaining



in the dermabraded area are excised. This technique is most effective when used before the appearance of extensive lesions and is extremely important in the preventative treatment of cancer of the face. On the

cheeks and in other parts of the body a thick split-thickness skin graft excision is possible for removal of large areas of superficial basal cell carcinoma in special instances. Physicians using x-ray for the



Fig. 6. (A) This 52-year-old housewife had a lesion of the nose treated with "pastes" for two years. (B) Wide resection of the basal cell carcinoma was followed by staged reconstruction using forehead flap tissue.

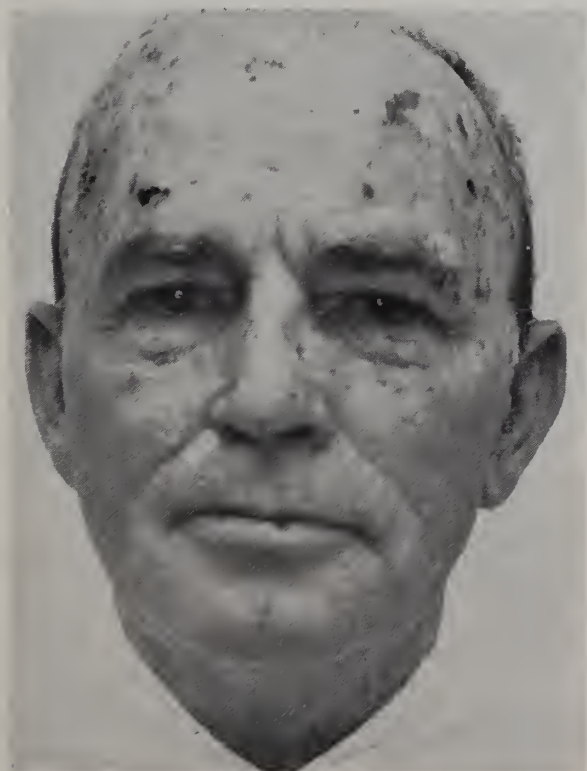


Fig. 7. Multiple keratoses are seen on the forehead, nose, and malar eminences of this 51-year-old painter who has worked many years exposed to the sun. All lesions were removed by surgical planning (dermabrasion). One lesion remained in the right suprabrow region. This has been excised.

treatment of skin cancer of the face have realized the limitations of conventional therapy. (Fig. 8)

Biological studies have shown that x-ray changes are related to alterations in cellular metabolism. This will probably be pinpointed as some disturbance in the mitochondria and the DNA-RNA systems of cell reproduction. With these alterations cells do not multiply, and the tumor dies. The newer techniques of fractionated small doses given over three to six weeks with protective shielding of surrounding normal areas has led to the development<sup>12</sup> of more satisfactory methods for irradiation of skin lesions. In addition to destruction of surrounding normal tissues and the development of severe inflammation of the cartilage underlying the nose and the ears, the avoidance of treating cancer of the eyelid by irradiation with subsequent corneal injury has been recognized. By further understanding the new developments in x-radiation perhaps all skin cancer of the face will be satisfactorily treated in the future with x-ray.



The abandonment of x-ray for treatment of acne and other similar disorders has brought a decrease in the number of the skin cancers of the face seen developing in areas of prior radiation. Often 15 to 20 years will pass before such breakdown of the skin occurs. Limitation in the use of radium on skin lesions with subsequent damage to surrounding tissues has also decreased the incidence of skin cancer. Children who have received irradiation of the skin of the face for benign lesions such as the hemangioma, which because of its extensive growth has become almost malignant with marked destruction of surrounding tissues, exhibit in later years marked maldevelopment of the facial bones and severe distortion of facial growth. The avoidance of any x-ray treatment of skin lesions arising in previously irradiated areas has also prevented the development of se-

individuals who have seen this treatment and patient results indicates that there is much work to be done before the general clinical application of the Laser technique.

One of the major advances in the treatment of cancer of the skin of the face has been the decrease in the practice of using surgical diathermy in treating these lesions. This, which used to be a major mode of treatment, has been largely replaced by surgical excision. Curettage of the very small lesions and fulguration or desiccation of the base of the wound for removal of the superficial lesion is still widely practiced. The awareness of those physicians using this technique as to the importance of limiting it to the very small and superficial lesions is necessary to prevent increased growth that may occur with an inadequately treated area. Elliptical excision of these areas has added to an improved cure rate.



Fig. 8. (A) This 69-year-old retired farmer was treated nine years previously with x-ray for an unknown type of lesion of the right lateral nostril rim. When the patient was first seen he had constant pain of the right face from exposure of the maxilla, radio-necrosis of the palate, and an intense irradiation reaction of the right nose and face. (B) A radical resection of the damaged tissues and staged reconstruction using pedicle tissue was performed. (C) The final result shows a less than ideal, but satisfactory, resurfacing of the diseased regions. He is pain free.

vere breakdown and squamous cell carcinoma occurring in multicentric regions.

The Laser beam<sup>13</sup> has been used for treatment of cancer of the skin of the face with varying degrees of success. In patients treated there was noted to be initial improvement in lesions, but the follow-up has been too short. Personal discussion<sup>14</sup> with

The scar which remains from excision in which the long axis of the ellipse has been placed parallel with facial folds (Fig. 9) will give an acceptable cosmetic result with only a fine line scar, as opposed to the widened, flat, slightly depressed scar which occurs after fulguration with electrocautery techniques.

In 1941, Mohs first reported his technique for chemo-surgical treatment of cancer of the skin of the face. This microscopically controlled method of excision is performed by fixing the lesion in situ by zinc chloride or similar paste. It is excised in thin slices. Each of the margins of the removed tissue

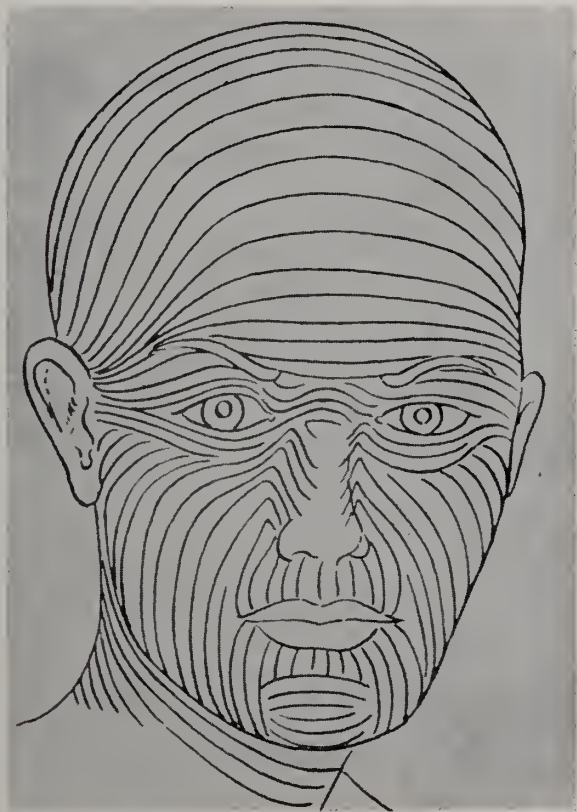


Fig. 9. This diagram shows the facial folds and lines helpful in performing elliptical excisions to obtain minimal scarring.

is examined microscopically for malignant cells. If abnormal cells are present further tissue is removed until normal tissue is reached. The excisions are performed in stages, usually 24 to 48 hours apart. After each excision more fixative in a dressing is applied. The process is repeated and the patient returns at daily intervals until the tumor has been eradicated. The wound is then dressed at daily intervals until it heals by primary intention of surrounding normal skin. The advantages of this technique are that the patient does not require hospitalization and the certainty of the removal of the tumor approaches 100%. The dis-

advantages are: it is painful; it takes much time for the patient; a specially trained staff with special equipment is required; and the larger wound which is allowed to epithelialize often requires secondary plastic surgical reconstruction. This technique may have some value in the treatment of the very small lesion if special facilities are available. Excision still seems to be the treatment of choice.

There have been several series reported in which cancer of the skin of the face has been successfully treated with topical anti-cancer drugs. The most promising agent seems to be 5-Fluorouracil. These drugs theoretically substitute as anti-metabolites for amino acids in cellular metabolism. For example, 5-Fluorouracil possesses steric properties so similar to uracil that it is able to substitute for it in the formation of deoxyribonucleic acid and ribonucleic acid. One group has<sup>16</sup> reported a three-year follow-up of a large series of basal cell carcinoma of the face treated with a 20% solution of 5-Fluorouracil cream applied daily. Intra-lesional injection<sup>17</sup> of these drugs has also led to some arrest of these tumors. Another anti-cancer compound, Trenimon (2,3,5,-tris-p-benzoquinone) has been reported<sup>18</sup> as effective in treating basal cell epitheliomata after daily application for a two-week period. This is commercially available in Germany, and is undergoing investigation in the United States. Others<sup>19</sup> have reported the use of a 5% Methotrexate cream which has been effective in some instances in causing the disappearance of basal cell epitheliomata. Whether or not the results obtained by these techniques will be comparable to those obtained by careful surgical excision remain to be seen.

Regional arterial perfusion with similar drugs to various areas of the face, head, and neck has been reported with at least 12 patients in one series<sup>20</sup> undergoing complete healing of basal or squamous cell carcinoma. The use of hyperbaric oxygen with the re-



gional perfusion of these drugs may effect an increased percentage of cure rate. Others<sup>21</sup> have noted rapid decrease in the size of basal and squamous cell carcinoma of the skin of the cheeks with regional perfusion of hydrogen peroxide solutions. It seems to be that the regional perfusion techniques may be most effective in potentiating the effectiveness of palliative x-ray in the far advanced skin carcinoma.

### Summary

The treatment of CA of the skin of the face has undergone many improvements in recent years.

These have been related to more effective education of patients and physicians; the discovery and application of preventative medications; improved surgical and radiological techniques; and the development of new anti-tumor drugs which hold promise for the future.

Early diagnosis and treatment still provide the greatest opportunity to the patient for complete cure.

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# Of Railways and Surgeons

## Considerations on the Surgical Discipline

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*There have been tremendous developments in railroading since Richard Trevithick made a model of the first railroad. Over these same years the art and science of surgery has known such great men as John Hunter, Lister, and Halsted.*

IN 1797 Richard Trevithick made a model of the first railway. Four years earlier in London, John Hunter, the greatest surgeon of history, had ended his career. As a result of his career, surgery for the first time had become a legitimate and accepted part of scientific medicine.

In 1804 the railway first ran successfully for a short distance in Wales. And five years later in Danville, Kentucky, Ephraim McDowell performed the first successful abdominal laparotomy with removal of a large ovarian tumor. Surgery had invaded the depths of the human body and major surgery had become possible.

In 1834 the Richmond, Fredericksburg and Potomac was chartered, this the oldest American railroad existing under its original name; two years later the Louisa railway was chartered, the parent of the Chesapeake

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Presidential Address, Thirty-fourth Meeting of the Association of Surgeons of the Chesapeake and Ohio Railway, White Sulphur Springs, November 21, 1966. Presented by invitation on behalf of Dr. Frank S. Johns, President of the Association.

From the Departments of Surgery, The Johnston-Willis Hospital and The Medical College of Virginia.

and Ohio. And six years after, in 1842, Crawford Long of Georgia administered the first general anesthesia with ethyl ether. Surgery had become painless.

Work started in 1863 on a transcontinental railroad, the Union Pacific building from west and the Southern Pacific from the east. On May 10, 1869, the work forces met and the rails were joined at Promontory, Utah, in the historic ceremony of the Golden Spike. It was an eventful day in world history, the railroad uniting safely a widespread and sprawling country. And in the same year a modest Quaker took the chair of surgery at Edinburgh, Joseph Lister having demonstrated to the world that surgical operations could be done without consequent sepsis using principles still in effect today. Surgery had become safe.

And now a century has elapsed since the last of these historic beginnings and, as I do not know the world of piggy-backs and monorails, I would turn your attention to some of the things that surgery is and does as we near the end of this century. And in opening with you this page of surgical history, may I remind you that it is only a page and that, could we read a hundred pages ahead and then look back to 1966, our present doings would look as rude and crude then as surgery 1866 looks to us today.

In attempting to put surgery into some kind of perspective, let me first say what surgery is not. Surgery is not a place to which people go for operative treatment; that place is called an operating room. Surgery is not an act performed by a surgeon, not a synonym for operation. One doesn't do surgery, nor does one submit to surgery. The word is derived from two Greek words

meaning hand and work, but surgery is something more than manual labor.

Surgery is the specialty of medicine which concerns itself with the relief of disease or disfigurement by operative intervention. It is a discipline, a science, a craft, and like all of medicine, an art. What then does it consist of? In simplest terms, what are its elements 1966?

They are four. Surgery today is four things. And if these four things are surgery, let us recognize that in each of them the effort of a team is involved and the surgeon is successful in his role only insofar as he submerges himself as a member of the team.

First a decision must be made and, as we shall see, this decision may be easy or difficult; and although the decision must be made not only by the surgeon but also by the patient or his representative, the responsibility for doing the right thing lies with the surgeon and his medical colleagues. Surgery is a decision.

The second element of surgery is a preparation, a preoperative period during which the surgical team must make certain that everything possible is done to assure a successful outcome and a well patient. We shall see that this preparation involves not only the physical needs pertinent to technique but also the necessity to alter the metabolic and local conditions in the patient and to allay as far as possible the anxieties of the patient as he faces the operation. Surgery is a preparation.

Third of course surgery is an assault. I use the word assault because no matter how meticulously or atraumatically a procedure is performed, an operation injures the patient. And although it is a planned injury, this injury in many respects is identical in both its local and systemic effects with other injuries such as fractures, lacerations and burns. Surgery is an injury inflicted upon the patient.

Fourth, surgery consists of a period of recovery or convalescence. The patient responds to injury in characteristic ways. We

shall see that this response is both a local one in the area of the surgical wound where it is known as inflammation and a generalized one, a metabolic response which challenges the mechanisms that maintain life and thereby threaten the safety of the individual. Surgery is a response.

## The Decision

Now to go back to these elements of surgery in some detail, let us look first at the decision.

John Hunter concerned himself with loss of limb in patients with aneurysm. In Richmond Park, the royal game preserve of George III, he captured a deer, visualized by transillumination the arterial blood flowing into the base of the antler, stopped this flow by ligating the carotid artery, later finding in the same antler re-establishment of flow through new arterial channels which had opened up around his ligature. Here was demonstrated what is now known as collateral circulation, a pathophysiological phenomenon which preserves limbs and parts of the body afflicted by arterial disease; Hunter in 1786 turning to the patient decided to ligate the femoral artery at a strategic point above the aneurysm so as to preserve the limb and promote collateral blood flow. Here the decision to operate was based upon a scientific understanding of the disease in the patient and of the surgical principles of its correction. And just so today should the decision be made.

Today the decision may be somewhat more involved. The first question is: Does the patient need an operation? In most instances, this decision is made before the patient sees the surgeon. An obvious lesion is found and the patient sent with the warning that he may need surgical treatment. If he is gravely ill as with Ephraim McDowell's patient, the decision is a choice between two dangers, the Scylla of progressive disease and the Charybdis of operative morbidity and mortality. As McDowell at the risk of his personal safety decided that



the hazard of an abdominal removal of the tumor was less than that of leaving it be, so today the decision must often be based on what appears best or least dangerous for the patient. Which offers the most, in terms of comfortable survival and purposeful life, an operative procedure or a continuation of non-operative treatment?

The next question in making a decision is: When? Timing in surgery may be the key to success. As you well know, some operations must be done immediately; resuscitation of the patient with cardiac arrest is the best example, as the brain cannot survive lack of oxygen for more than four or five minutes. More often there are reasons to delay: the marasmic infant needs a pyloromyotomy for pyloric stenosis but not until his acidosis and hypovolemia are corrected; the man with bleeding piles needs a hemorrhoidectomy, but not until the presence of more dangerous causes of rectal bleeding such as polyps and carcinoma has been excluded by careful study.

And now for the final question in the decision: What operation should be done? It is here that future historians will judge us most severely, for operative procedures like locomotives run a useful and powerful life only to grow old and be discarded. In this generation we see the rise and fall of many techniques. To mention a few: thyroidec-tomy for hyperthyroidism; chest-collapsing operations for pulmonary tuberculosis; gastro-enterostomy and related operations for peptic ulcer; suspension of the uterus for pelvic pain and backache. The longevity of other procedures is just now being challenged. What about repair of hiatus hernia for simple dyspepsia? What about occipital neurectomy for headache? Synthetic prostheses for blood vessels and heart valves are being replaced by the latest models.

Admittedly the choice of procedure must sometimes wait until the operation is under way; but in most instances it is important to choose the procedure in advance. For instance, in carcinoma of the rectum the

decision, based on the distance of the tumor above the anus, must be made in advance as to whether an anterior resection can be done preserving anal function or whether an abdominoperineal resection of the rectum with destruction of anal function is best for the patient.

At last the decision has been made, at least as far as the surgical team is concerned. But what of the patient who also has to decide? Here we come to that most compelling human relationship in contemporary medicine and surgery, the so-called doctor-patient relationship, one which must consist primarily of sympathetic understanding on the part of the physician and trust and confidence on the part of the patient. It is only in such an atmosphere that the patient can endure with equanimity the tribulations and discomforts of his illness and it is only under such conditions that the surgical team can best direct the clinical course of the patient.

If the patient today is quite sophisticated, his preoperative anxieties are by no means thereby lessened. He still asks himself the old questions which can be answered only by an understanding attitude and devotion to service on the part of the medical-surgical team.

"Do I really need an operation? Really? What kind of operation? Does he know what is wrong with me? Really? Is it cancer? Could it possibly be? Where will he cut me? How long will it take? How much will it hurt? Will I be sick? Is it dangerous? How will they put me to sleep? When should I have it done? Is it urgent? Suppose it's cancer. Can it wait until my vacation? How good is this surgeon anyway? He looks awfully young (or old). Is he careful? Can I trust him? Will he do the operation himself or will some other person do it without my knowing it? Is he really the best I can afford? Did I go to the best hospital? How much will it cost? And who is going to pay for it? Do I have enough insurance? How long will I be out of commission? How



many days in the hospital? Will I really be all right? Really? Suppose it's cancer and he cuts me open; will that spread it and make me die sooner? If he makes a mistake, what will happen to me? Can I trust him? Do I really have to have the operation?"

You see, as such questions indicate, usually the last person the ill patient wants to see is the surgeon. Usually therefore the surgical team moves to anticipate each of these questions in order that the patient's decision will be in line with what is best for him. In some instances the patient is obviously relieved to find that he has an ailment which can be corrected by an operation. Others go a step too far and seek operations whether they need them or not, looking for another crutch with which to limp.

And so the decision in surgery today, however complex, is still the decision of John Hunter, a scientific decision based on what is best for the patient. For the future it must only be the same.

### The Preparation

From his earliest years Joseph Lister had been impressed with high mortality from postoperative septicemia, pyemia, erysipelas, tetanus and hospital gangrene. Associating these deadly infections with the presence of Pasteur's microorganisms, Lister moved to kill bacteria in the operating room, hitting by experimentation upon carbolic acid, a chemical used at the time to disinfect the sewage of Carlisle. In 1865 Lister did an open reduction of a compound fracture with his technique of phenol sterilization; this was the beginning of preoperative preparation, its object to make the patient safe for the operation and vice versa. Next year incidentally marks the centennial of Lord Lister's first papers, the second of which bore the significant title, "On the Antiseptic Principle in the Practice of Surgery".

The end of Lister's century sees a fabulous extension of his principles. Not only is a sterile environment produced for all the

devices needed for operation, but bacterial control of the patient's blood stream, gut and skin is possible and I have already referred to the necessity to obtain metabolic control in the ill patient coming to operation.

I shall not dwell on the role of the anesthesiologist in the preoperative management of the patient for it is obvious that he is a key figure and the only one who can determine at what moment the operation is to begin. When Crawford Long first gave ether in 1842, he also did the operation on the patient. But when Morton administered ether four years later at the Massachusetts General Hospital, he was the anesthetist. Perhaps you remember the story, how the surgeon, Dr. John Collins Warren, introduced with disdain the patient to Morton, "Doctor, your *patient* is ready," and how Morton deciding shortly that etherization was in effect said to Warren, "Doctor, *your* patient is ready."

Anesthesiology has changed radically in the past two decades. Anesthesiologists are today's resuscitologists, skilled in the science of keeping alive the severely ill or injured, including the surgically injured, truly supporting not only the surgical team but coming into play wherever resuscitation is involved. I am sure we will see an extension of this; for example, today at the Bispebjerg Hospital in Copenhagen, all patients inflicted with respiratory disease, including those with pulmonary edema, are admitted on the anesthesia service. The tricks up the sleeves of these specialists are fantastic; they breathe for the patient at any desired depth and rate, slow the heart rate, speed it up, raise the blood pressure, lower it, control blood volume, paralyze the patient's muscles, reverse the paralysis and so on.

And so in the preparation of the patient for operation we think in terms of preanesthetic as well as preoperative maneuvers and we inherit not only the antiseptic principles of Lister but the world of resuscitation which is the offspring of anesthesia.

## The Assault

In the mid-nineteenth century a medical student, first year, wrote home from Philadelphia: "Dear Mother. Today I decided to become a surgeon. I saw a famous surgeon operate. It was wonderful. He took only a minute and 26 seconds to amputate a man's leg above the knee together with the index finger of his first assistant."

Harvey Cushing, a new resident from Boston, received on his ward a patient brought from the operating room following a radical mastectomy for breast cancer by Dr. Halsted, this in 1896 at the Johns Hopkins Hospital. Assuming the patient to be in shock after a long, brutal and bloody operation, Cushing carried out the maneuvers he had learned at Harvard, head down position, piles of blankets and breathless observation to see if the patient had a chance to survive this mutilating procedure. As he was about to inject strychnine, Halsted arrived asking quietly that the blankets be removed, bed up. Yes it was a long operation. Mutilating? Perhaps. Bloody? No. Look at her closely; she is not in shock.

With William Stewart Halsted the Assault underwent a change. A school of Do-it-Right was introduced. The team went into the operation with a complete scientifically calculated plan. Nothing was left to chance, no room for mistakes, success assured from the beginning. It doesn't matter how long the operation takes; don't hurt the patient. The only way the anesthetized patient can complain about the brutality of the surgeon is to bleed. Don't spill his blood. Take time. Do it perfectly. An operation should not be prolonged, but an operation takes as long as it takes. The operating room is no place for a clock. If you can't do the patient any good, don't do him any harm. To these principles others were added. "The operating room is the laboratory of the surgeon." It takes a long time to train a surgeon, many years; don't rush him; give him time; send him to the experimental laboratory; let him go to pa-

thology; give him plenty of responsibility before he leaves to practice. From the ideology of Halsted and the surgical residency system have sprung the tremendous advances in the technical surgery of our time, the vast expanses of general, thoracic and vascular surgery, plastic and neurosurgery, oncology and organ transplantation, these made possible by strict adherence to the Halstedian principles of extreme gentleness and care to tissues, meticulous step-by-step attention to every detail, perfect exposure and visibility for each maneuver executed, the team knowing each other and every eventuality so well that conversation in the operating room is seldom necessary.

But in the final analysis the assault is still an injury and some of Halsted's patients had trouble, as do ours; some always will.

## The Response

The last suture has been placed, the wound dressed and the patient has been moved to the recovery room.

Although 98% of operations today are followed by complete recovery and a happy convalescence, habitual concern in 1966 is for the small number of patients in whom something goes wrong as a result of the operation; only in studying such cases is it possible to prevent complications in the future. Was the operation or was the patient ill-chosen? Was the preoperative work-up complete? Was something unexpected found? Why? Was there a break in technique? A source of contamination? What about blood losses? Had volume and buffer been brought to optimum? These and other questions are always raised.

Hemorrhage and infections of wounds continue to be problems in surgery throughout the world. The former is rare but in major cardiac and vascular surgery bleeding from the operative site still occurs and when recognized must be dealt with surgically. With extension of the techniques of cardiovascular surgery further difficulty with hemorrhage can be expected. Infection is

a complex problem and one of great importance, particularly as the field of transplantation is extended, for the immunological mechanisms which must be dealt with in transplant surgery are related to those which help control infection, these problems being exploited intensively at the present time. Disintegration of surgical wound remains a problem, one which even those in high political office cannot always escape. Thromboembolism, still a serious threat to the postoperative patient, still responsible for 30,000 deaths per year in this country, needs further extensive study.

But let us look finally at the great host of individuals who get past the period of surgical mayhem. Just as we are partly ignorant about the manifold complexities that lead to postoperative complications and death, so are we in the dark about the wonderful devices that sustain life, this gift of life which we enjoy. There is something

referred to as the healing power of nature which is not totally revealed to us. As a sixteenth century barber-surgeon suggested when asked just how he had wrought such a miraculous cure, Ambroise Paré, stating for all time the credo of surgery, "I dressed the wound. God cured the patient."

### Conclusion

And so today surgery stands on the shoulders of its giants of the past. And as the patient of the future submits to the ministrations of surgical treatment, he can look to a decision on his behalf based on scientific knowledge by a Hunter, to a safety countdown in the hands of a Lister, and to a technical assault by a meticulous perfectionist, a Halsted. For his recovery he will need for himself only the faith of Paré.

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### Let's Reminisce!

*Transactions of The Medical Society of Virginia 1877 meeting.*

Dr. Apperson, in the name of the committee, made an earnest appeal to the Society to be punctual in responding to the bills of the Treasurer. Exclusive of the Assessment for the fiscal year 1877-8, *which is now due*, there is enough due for annual assessments and for initiation fees, even from Fellows who are in every way able to pay their bills, to remove the debts of the Society and to leave a balance in the Treasury. But, instead of having such a balance, the Society is compelled to call upon the assessments of 1877-8, to meet bills past due. Some members, it is true, are not able to pay the moderate fees of two dollars per annum; but there are others who are simply negligent of their duty. Do not let this be the complaint any longer. The treasurer reported receipts of \$656.01 for the year and expenditures of \$849.55. He had advanced the amount of \$193.54 and had waived all claim to the ten per cent commission due him on the collection of initiation fees and annual assessments.

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At the 1879 meeting, it was reported that the Society was out of debt with a balance in the treasury of \$2.58.



# The Treatment of Mallet Finger and Boutonniere Deformities

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*Treatment of injuries to the extensor mechanism of the distal joints of the fingers is complicated and requires consideration of several factors.*

THE DIFFICULTY in caring for injuries to the extensor mechanism has often been minimized when compared to flexor tendon injuries. While it is true that disruption of the extensors over the dorsum of the hand are less of a problem in treatment, this is not true distal to the proximal joint. These joints are controlled not only by interaction between the long extensor and intrinsic lateral bands but also by the function of the long flexor tendons. This is a very complex mechanism and all joints are involved in each individual case, depending on the site and type of injury.

A normal tendon rarely ruptures, the separation usually occurring at its insertion or less frequently at the musculotendinous junction or through the muscle belly. However, cases in which there is pathological weakening, division may occur within the tendon itself. Examples most commonly found are rheumatoid and tubercular tenosynovitis and tendinitis, attrition at fracture sites and direct trauma to the tendon.

The most common rupture of the extensor tendon is at the insertion of its conjoint

tendon into the base of the distal phalanx causing the so-called "mallet" or "drop" finger deformity. Second to this is rupture of the central slip of the extensor digitorum communis mechanism giving rise to the boutonniere deformity. The deformities following these injuries are diametrically opposite in the middle and distal joints of the finger.

## Mallet Finger

The deformity in mallet fingers is a flexion deformity of the distal joint associated in many cases with a hyperextension deformity of the middle joint. (Fig. 1) When



Fig. 1. A Typical Mallet Finger.

the distal insertion is disrupted, attempts at extension cause the central slip to increase extension force at the middle joint with dorsal subluxation of the lateral bands and stretching of the volar plate. The flexor digitorum profundus already without its usual antagonist is placed under increased tension by the hypertension deformity of the middle joint causing greater flexion force on the distal joint.

The pathological anatomy of the injuries varies in each case and associated with the

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above guides the plan of treatment to give optimal results.

In closed trauma if a flexion is applied, especially against a taut extensor, disruption of the extensor mechanism may occur. (Fig. 2)

#### MALLET FINGER PATHOLOGY

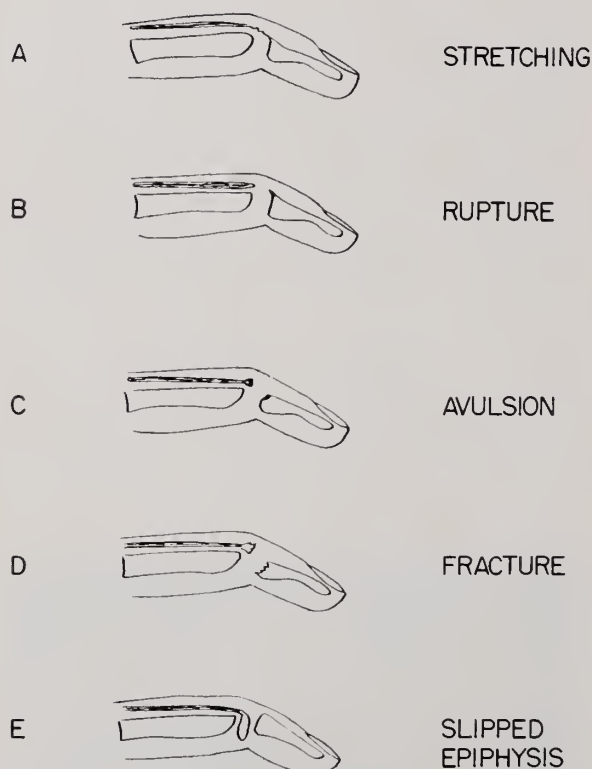


Fig. 2

(A) The fibers may be stretched and attenuated without complete division of extensor mechanism.

The tendon may rupture or be avulsed from the base of the distal phalanx (B) without or (C) with a small fragment of bone attached. The bone will be visible on x-ray and show the distal end of the separated tendon.

(D) A large fragment of bone may be present with involvement of the articular surface of the distal phalanx to a significant degree. This may be by both extension and flexion force and be associated with subluxation of the distal phalanx volarward or dorsally depending on the applied force.

(E) In children an additional possibility is fracture-dislocation of the epiphyseal plate.

#### Treatment:

The treatment of mallet finger depends on several things. (Fig. 3) The initial deci-

#### MALLET FINGER TREATMENT DEPENDS ON THE FOLLOWING:

1. Time after Injury
2. Pathology of Deformity
3. Severity of the Deformity
4. Age of the Patient
5. Occupation of the Patient
6. Previous Treatment

Fig. 3

sion is whether or not active treatment is necessary. Occasionally overtreatment will cause greater disability than undertreatment. In many cases the deformity is relatively mild and causes little disability. In cases in which stretching of the tendon has occurred, improvement may gradually occur due to scar contraction. Severe deformities may even be tolerated in certain individuals, especially when found in the little and ring finger or on the minor hand.

The mallet deformity can usually be handled by conservative means of splinting. Each case must be individually evaluated and in some surgical reconstruction is necessary. There is a large variety of splints available for use.

It is important to consider the complications of active treatment as compared to no treatment prior to institution of any regimen of therapy. In cases which have a large involvement of the articular surface, it is necessary to do an open reduction and anatomic reduction to prevent traumatic arthritis as well as correcting the flexion deformity. Open wounds must be closed and if the extensor tendon is cleanly cut, repair is advisable. In cases with great fraying of the tendon and other soft tissue damage, a secondary tendon repair should be done after tissue equilibrium has returned if necessary. Where subluxation or dislocation of the distal joint has occurred, this

must be reduced and held with a small Kirschner wire with tendon and bone repair as indicated. In any open repair there is always the danger of infection and necrosis of skin edges. The distal joint must not be placed in extreme hyperextension in either open or closed treatment because of danger of skin slough over the distal joint caused by impairment of the limited vascular supply to this area. In certain cases this hyperextension may also cause joint subluxation.

The use of Kirschner wires may cause some joint stiffness and fibrositis in the distal joint as well as in the middle joint if both are impinged as described by Pratt.

Joint stiffness may occur after both open and closed treatment. Many people, especially the more elderly with a tendency toward stiffening of joints, should be immobilized for a minimal interval of time, if at all. The middle joint, if immobilized, should not be in more than 60 degrees of flexion and even less may be adequate and advisable.

Nail deformities often occur but usually are temporary and cause little difficulty. The treatment of the mallet finger deformity depends on the following:

1. Duration of time following injury
2. Anatomic pathology of the deformity
3. Severity of the deformity
4. Age of the patient
5. Occupation of the patient
6. Previous treatment

If the patient is seen 7-10 days following injury without other indications for surgery, splinting to include the middle joints is treatment of choice for four to five weeks followed by additional splinting of the distal joint for at least four weeks. In certain cases splinting of the distal joint in slight hyperextension is satisfactory and allows much better use of the hand. If there is a question about maintaining the splint properly, a thin Kirschner wire across the distal joint plus the splint may be preferable. This allows the worker to return to his job more

rapidly with less worry about loss of position.

The immobilization of the distal joint alone allows use and minimizes stiffness in the middle joints.

If seen two to four weeks post-injury a short splint only is used for eight weeks. If deformity recurs to a troublesome degree, surgery may then be indicated.

After two months treat with splinting only to relieve pain and disability.

If middle joint stiffness is present due to previous treatment or nature of injury, the greatest need is mobilization of this joint. A short splint may be used or if this is not feasible the distal joint deformity is disregarded.

If there is some active extension of the distal joint despite a deformity, it indicates some degree of continuity of the tendon. Here a short splint six to eight weeks should allow good recovery. In this type injury no treatment at all may show progressive improvement to satisfactory degree.

In patients seen after 10-12 weeks and able to work and use his hand, no treatment is advised with the warning that surgery may be necessary at a later date.

Surgical reconstruction is indicated if there is functional disability due to degree of deformity or joint involvement.

Surgical dissection must be done especially atraumatically in this area. Curvilinear incisions are used taking care to round the corner of the wound preventing sharp edges with their tendency to slough at the points. Due to tendency of vascular problems in this area undermining of skin flaps must be done carefully. Gentle handling of the delicate extensor mechanism and sharp dissection is very helpful in preventing adherence and scarring.

Freeing of the extensor mechanism must be carried out proximally to the base of the middle phalanx to allow to completely appraise damage to its components and to gain maximal amplitude.

If the joint is damaged with loss of a



large bony fragment it is necessary to obtain an anatomical reduction. This is fixed with small Kirschner wires if fragment is of ample size or otherwise with wire sutures through drill holes in the distal phalanx. External splinting associated with K-wire, if indicated, is maintained for at least five weeks or until adequate union is visible on x-ray.

If the joint is severely damaged or not seen for treatment until eight weeks or more post-injury, arthrodesis in a functional position is the treatment of choice.

In tendon rupture or avulsion with a small fragment of bone, direct repair is desired. A small bony trough is made in base of distal phalanx and an interwoven suture of #34 wire with a pull-out is placed in the conjoint tendon. The wire is drawn through small drill holes at the base of the bony trough and tied over a button. Because of the thin construction of the tendon, care must be taken to place the sutures correctly and atraumatically. If the tendon is tightly adherent to the bone a gliding material may be interposed between them. The material used is either a filmy fascial sheet or thin polyethylene. The polyethylene must be removed in six to eight weeks. Here again a K-wire may be used to augment external splinting. This is removed in three to four weeks depending on the tension of the anastomosis and age of the patient. The pull-out may be removed at the same time. Protected exercise is begun and splint is used for at least four weeks and longer if indicated, especially in persons engaged in activities in which re-injury may occur. Gliding over the distal joint is needed to allow extension of the distal phalanx and care must be taken to prevent adherence of the tendon at this site.

If restriction or absence of the tendon prevents direct repair, a tendon graft is needed to allow spanning of the defect. This is held at rest five or six weeks and then begun on protected motion an additional four to six weeks at least.

In cases in which the defect has been spanned by scar with the increased length preventing satisfactory correction of the deformity and also as a graft to span a defect, a very thin interwoven suture of tendon may be used. This is threaded through the proximal tendon and sutured to the base of the distal phalanx either in criss-cross fashion through a transverse drill made in the bone or over a pull-out as described before. Active motion can be begun sooner if this is simply used to tighten the tendon and not span a defect. Care must be taken to prevent bunching of the tendon or use a too large tendon suture causing a prominent mass.

Dislocation of the epiphyseal plate must be reduced and held in place with external splinting occasionally and with a thin longitudinal K-wire. This should be immobilized four weeks and protected from injury an additional three to four weeks.

### **Boutonniere Deformity**

The boutonniere deformity consists of three components. These are hyperextension of the proximal joint, flexion of the middle joint and hyperextension of the distal point. (Fig. 4) The deformity is caused



Fig. 4. A Typical Boutonniere Deformity.

by detachment of the central slip of extensor mechanism from the base of the middle phalanx or by direct laceration of the tendon.

In closed injury the usual finding is pain and swelling of the middle joint. The diagnosis is often missed at this time and the joint immobilized in semi-flexion which tends to keep the tendon ends separated preventing healing. There is point tenderness over the dorsum of the swollen middle joint. The finger is held in semi-flexion due to pain, swelling and continued pull of the unopposed flexor digitorum sublimi.

Any attempt at extension of the finger now increases tension on the lateral bands causing them to drop volarward below the axis of the middle joint to become flexors and strengthening the flexion deformity already present. The greater tension also causes a hyperextension deformity at the distal joint.

After the initial soreness and swelling full flexion is present at both the middle and distal joints but active extension at the middle joint is decreased to a variable degree. When the middle joint is passively extended both active and passive flexion of the distal joint is decreased. It is helpful to measure the degree of flexion as well as to compare it to its normal opposite member. When this approaches the normal during the course of treatment we can safely discontinue splinting. In injuries over two to three weeks there may be only a few degrees of flexion present at the distal joint.

#### *Treatment:*

The type of treatment varies with the situation. (Fig. 5) In fresh injuries with

#### TREATMENT OF BOUTONNIERE

1. Splinting
2. Direct Repair
3. Free Graft
4. Utilization of Lateral Bands
5. Arthroplasty
6. Tenotomy
7. Arthrodesis
8. Amputation

Fig. 5

full passive extension a splint is applied to hold the middle joint at 180 degrees, but

short enough to allow active flexion of the distal joint. This is maintained for five weeks and in most cases full flexion of the distal has been regained. If flexion is restricted the splint is replaced until the distal joint flexes to the same degree as the normal side.

If there is restricted passive extension this is corrected with a safety-pin splint still allowing free flexion of the distal joint. The period of immobilization is determined in the same way as above.

In clean lacerations the tendon is repaired primarily with figure of eight sutures of #34 wire or small interrupted sutures of #36 wire. Splinting is maintained for four weeks and protected exercise is carried out for an additional two weeks. The splint again allows free flexion of the distal joint with the middle joint in extension.

In deformities seen after a longer period of time, full passive extension must be regained and normal flexibility of the joint is ideal to obtain optimum results. Cases in which retraction of the central slip cannot be overcome must be reconstructed. This may be done by direct free graft or by using the tendon strips in criss-cross manner attached either through a transverse drill hole in the base of the middle phalanx or directly into a bony trough with pull-out wires tied over a button. The defect can also be overcome with the use of the lateral bands in several ways. They may be divided, crossed just proximal to the middle joint and reattached to the opposite band distally. Some advise bringing both bands together over the dorsum and uniting them into a single band. In this repair care must be taken to prevent marked restriction of flexion.

Cases in which the defect is filled with scar causing a small amount of relative lengthening and strength, a recession is carried out. An interwoven suture is passed through the tendon attached into the base of the middle phalanx and drawn tight overcoming the slack to desired degree.

In other cases the scar is exercised and the lateral bands are completely isolated. The middle slip is anchored into the base of the middle phalanx with pullout wires of #34 wire with the middle joint in full extension. The distal joint is then fully flexed and the lateral bands are attached to the sides of the central slip. An external splint is applied which may be aided by use of K-wire fixation through the extended middle joint if there is a question about maintenance of the correct position.

Where a large piece of bone has been detached with joint involvement it is necessary to reduce anatomically and hold in place with K-wires. Small pieces of bone which have been avulsed are removed and the tendon re-attached into the base of the middle phalanx. Where subluxation or dislocation of the middle phalanx has occurred, reduction is carried out and held with a thin K-wire. Occasionally in old cases bony excrescences must be removed to prevent blockage of motion.

In severe deformities of long standing in which there is still slight amount of motion, a tenotomy of the conjoint tendon proximal to the distal joint may decrease the deformity and improve motion. This is often

beneficial in deformities caused by rheumatoid arthritis and severe Dupuytren's contracture especially in older people in which more extensive procedures are not feasible.

In rheumatoid caused boutonniere deformities a complete replacement extensor mechanism is utilized as described by Flatt. A model is created using the palmaris longus tendon as the central slip with its surrounding fascia connection and maintaining the lateral bands.

Where the entire mechanism is destroyed as found in burns and severe injuries and soft tissue coverage is satisfactory, tendon reconstruction can be carried out using motors such as the sublimis and utilizing the lateral bands or free tendon grafts.

In cases in which there is severe fixed deformity and extensive destruction an arthrodesis of the middle joint in the optimal position is indicated.

In a few cases in which use and efficiency of the hand is lowered by the deformity and cannot be corrected, amputation is the treatment of choice.

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### **Let's Reminisce!**

*Transactions of The Medical Society of Virginia 1881.*

The greatest discovery in surgery thus far in the year 1881 is that of Dr. Wm. McEwen. He has successfully transplanted bone—fragments of wedges of bone taken from patients for curved tibia—into the arm of a child whose limb was useless by reason of extensive necrosis. Two-thirds of the humerus had been destroyed and no repair of bone had taken place. A good, new humerus was the result, less than an inch shorter than its fellow. (Proc. Med. Soc. Co. Kings, August 1881.)



# Atelectasis in Asthma

## A Report of Five Cases and a Review of the Literature

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*Atelectasis does occur as a complication of asthma in both adults and children and is easily overlooked unless a chest x-ray is taken. Happily, the outlook for recovery is good.*

**A**TELECTASIS is an occasional complication of asthma. It may be more common than suspected. The condition may be overlooked as a complication of acute asthma attacks when the x-ray examination is omitted. Peshkin and Fineman<sup>1</sup> reported a case of acute massive atelectasis in a child and reviewed the older literature in 1931. They reported that atelectasis as a complication of asthma was first described in 1889 although it had been reported before in association with other disease. It usually occurred in adults, was recognized by x-ray, was often associated with infections or operations, and usually cleared entirely although in some individuals it was found at autopsy. It seemed to clear more promptly if the patient was bronchoscoped. Several cases from the University of Virginia Hospital and a review of selected reports will be presented.

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### Case Report

*Case #1:* (U. Va. # 45-01-13) A seven year old boy who had had asthma associated with perennial allergy and infection for three years was seen because of an upper respiratory infection accompanied by wheezing. He was in no severe distress. Physical examination was not remarkable except for wheezing throughout the lungs. A chest x-ray revealed collapse of the right middle lobe as evidenced by increased density in this region accompanied by elevation of the right leaf of the diaphragm and an upward bulging of the minor fissure. He was treated with sulfisomidine 1 gm. three times daily for ten days. Two weeks later he was free of symptoms and at that time his chest x-ray was clear.

*Case #2:* (U. Va. # 39-13-99) A thirty-five year old white female had had asthma due to allergy and infection for at least twelve years. Two days prior to admission she developed a cough, wheezing, severe dyspnea, and pain in the left chest. On examination the temperature was 99.2°. There was dullness to percussion and absent breath sounds in the lower left posterior thorax. Chest x-ray demonstrated a density in the left lower lobe, decreased size of the left hemithorax, and a shift of the mediastinum to that side. She had not improved twenty-four hours after therapy with tetracycline 250 mgm and prednisone 5 mgm four times daily, and the chest x-ray had not changed. At that time she was bronchoscoped and thick, green pus was removed from the left lower lobe bronchus. No obstructing lesion was seen. A culture of the secretions revealed the presence of *D. pneumoniae*. The

day after bronchoscopy she had improved and the chest x-ray showed partial expansion of the left lower lobe. Another chest x-ray five days later was within normal limits. The density had cleared and the mediastinal structures had shifted back to their normal position. At that time she was well.

Two and one-half years later she had another episode characterized by right chest pain, cough, purulent sputum, and dyspnea. Physical examination disclosed a temperature of 99.2, many rhonchi throughout the right posterior hemithorax, and a few rhonchi in the left hemithorax. Chest x-ray showed a hazy density in the middle lobe typical of atelectasis. She was treated with 500 mgm of tetracycline four times daily for seven days and 10 mgm of prednisone three times daily for three days. Two days after starting treatment she was improving but the x-ray was unchanged. After one week of therapy she was well and the x-ray was normal.

*Case #3:* (U. Va. # 52-40-37) A seven year old girl had had allergic and infectious asthma for several years. She was seen because she had had an upper respiratory infection and a loose cough for three days. She was afebrile and in no distress. Physical examination demonstrated decreased breath sounds over the left posterior lung field and tubular breathing over the left anterior chest. Chest x-ray including PA, lateral, and AP lordotic views demonstrated increased density and a loss of volume of the lingula of the left upper lobe. After five days of therapy with tetracycline 250 mgm four times daily she was essentially well and the chest was clear to auscultation. However, chest x-ray at that time revealed atelectasis of the left lower lobe and a small area of atelectasis in the right upper lobe. She was treated with tetracycline for another week, after which the chest x-ray was normal.

*Case #4:* (U. Va. # 54-72-87) A six year old white girl was seen because of attacks of asthma occurring several times a year since age three. Most attacks were as-

sociated with respiratory infections. They lasted one or two weeks. Between attacks she was well except for minor episodes of wheezing. There had been no recent exacerbation of her symptoms. Hay fever symptoms were not prominent. No allergens had been recognized as a cause of symptoms. She had pneumonia at age four. Otherwise she was healthy. Physical examination was not remarkable except for wheezes throughout both lungs. She looked healthy and was not short of breath at rest. Skin tests gave scratch reactions to several dusts. There were no reactions to molds, epidermals, or pollens. A test to 1:1000 old tuberculin was negative. Chest x-ray revealed increased density and loss of volume in the region of the right middle lobe. There was no compensatory shift of heart or mediastinal structures to the right. After two weeks of treatment with prednisone and tetracycline her cough and wheeze had cleared and her chest x-ray was normal.

*Case #5:* (U. Va. # 55-10-30) A thirty-four year old white female had wheezed with colds for five years. She had had asthma of increasing severity for two years with daily attacks during the past month. Her attacks had been made worse by nervousness and respiratory infections but neither history nor skin tests identified allergens clearly related to her attacks. On examination the temperature was normal. She was not short of breath at rest. There were inspiratory and expiratory wheezes throughout the lungs. Chest x-ray demonstrated atelectasis of right middle lobe. Arterial blood gases were measured. The PO<sub>2</sub> was 56.8 mm Hg, PCO<sub>2</sub> 30.1 mm Hg, pH 7.52. Bronchoscopy was performed. The orifices to all lobes were open and free of secretions. She was treated with 1 gm tetracycline daily for two weeks. One month after her first examination her chest x-ray was normal and she was well.

### Discussion

These cases direct attention to several aspects of the problem of atelectasis in asthma.



Three of the five patients were children and all had lobar collapse. In the past it was felt that massive atelectasis of a lobe or lung occurred only in adult asthma. However, atelectasis of a lobe or a lung as a complication of asthma has been reported in some 20 patients. These case reports have been collected and discussed by Rakower, et al.,<sup>2</sup> Luke,<sup>3</sup> and Aronsohn and Pressman.<sup>4</sup> An additional case has been reported by Weatherman.<sup>5</sup> These authors have pointed out that over half of the patients have been teenagers or younger children, that the condition is often associated with respiratory infection, and that at the time of bronchoscopy the large bronchi of the involved lobes are filled with very thick tenacious mucus. Segmental atelectasis occurs more frequently and atelectasis of varying severity in asthmatic children is common knowledge among pediatricians. James, et al.,<sup>6</sup> studied 854 children who had atelectasis from multiple causes involving one or more bronchopulmonary segments. All were diagnosed by x-ray. Fifty-six or 6.5% of these children had atelectasis due to asthma. These figures indicate a significant incidence of segmental but not lobar atelectasis among asthmatics and conversely that asthma is important as one of the many causes of atelectasis. James also found that the right middle lobe was most frequently involved and noted a 25% recurrence rate of atelectasis in his asthmatic children.

These cases also illustrate the fact that atelectasis may occur in asthmatics who do not seem to be very ill. This complication is not limited to the very ill patients described by Lecks, et al.<sup>7</sup>

The pathogenesis of this entity is open to speculation. The normal safeguards of the lung against bronchial obstruction and subsequent atelectasis are: (1) normally functioning cilia, (2) normal quality and quantity of the bronchial secretions, (3) effective ventilation, (4) a cough capable of moving respiratory tract secretions. In asthma all of these safeguards may fail.

Failure of cilia and abnormal mucus must be of great importance. Hilding<sup>8</sup> demonstrated a tremendous increase in goblet cells and a corresponding decrease in ciliated cells in patients dying with asthma. The bronchi were filled with an exceedingly gummy and viscid mucous cast anchored to the bronchial wall by small masses of mucus not completely extruded from the goblet cells. The decreased ventilatory function and the suppression of cough because of a sore chest wall are commonly seen in asthma and no doubt contribute to the retention of bronchial mucus. Various authors have suggested that atelectasis may be caused by excess sedation; oxygen administration; status asthmaticus with its associated fluid loss, dehydration and fatigue; tracheostomy with drying of bronchial secretions; and antihistamines with inhibition of mucous gland activity. However, they were not important in our patients because with the exception of antihistamine drugs which may have been used in small quantity in some of the patients, these factors were not involved. Only one of our patients seemed to be seriously ill. In the others the atelectasis was an unexpected abnormality discovered by x-ray.

Another possible factor in atelectasis in asthma as well as in other conditions is abnormal pulmonary surfactant activity. Surfactant is probably a lecithin-protein complex lining the alveolar membrane. It seems to contribute to the stability of the alveolar spaces, producing low surface tension when the area of the film is small (in the deflated lung) and high surface tension when the area of the film is larger (in the inflated lung) thereby preventing either collapse or overexpansion. Defective surfactant activity has been found at autopsy in association with atelectasis. However, it is uncertain at present whether the increased surface tension and decreased surfactant is the cause or the result of atelectasis.<sup>9</sup>

Atelectasis may not be recognized from the physical examination. The common signs, i. e. fever, tachycardia, dyspnea, chest



pain, diminished breath sounds, and tubular breathing may be present in asthmatics without atelectasis. The chest x-ray is the most important diagnostic tool. The AP lordotic chest view is of particular value when atelectasis of the right middle lobe or lingula is suspected.

Unfortunately we do not have any firm information on which to recommend therapy. Our cases indicate that atelectasis in asthma is frequently associated with pulmonary infection. When atelectasis is present it seems reasonable to treat the patient with an antibiotic and symptomatic therapy including steroids. Some cases may improve with therapy. Others may require bronchoscopy. Bronchoscopy should be reserved for those patients who fail to respond to conservative therapy. The chest x-ray may not clear until several days after bronchoscopic treatment or the beginning of clinical improvement. In small children with localized massive atelectasis who fail to re-expand after several days of therapy the hazard of bronchoscopy should be weighed against the possibility that the atelectasis may be due to aspiration of a foreign body.

The prognosis for atelectasis associated with asthma seems to be good. All of these patients recovered. We have seen no patients with chronic atelectasis that developed as a complication of asthma. Large areas of atelectasis are seldom found at autopsy in patients dying with asthma. In a number of reports by several authors (Bullen,<sup>10</sup> Messer, et al.,<sup>11</sup> Rackemann<sup>12</sup>) a total of 530 autopsies in asthma were described. Since

only five of these asthmatics had large areas of atelectasis it does not seem to be a common cause of death.

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# Arteriography

## Community Hospital Experience in 1,142 Patients - 1958 to 1966

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*Arteriography is a safe and widely used procedure. Without it the advances in vascular surgery would have been unlikely.*

ANGIOGRAPHY, or the injection of intra-arterial contrast mediums has become a standardized and accepted method of vessel demonstration to determine the location and extent of intraluminal obstruction, the degree of collateral circulation, and the visualization of run-off. In neuroradiology, direct visualization of vascular malformations or vascularized tumors—such as malignant gliomas or meningiomas—or the indirect indications of space occupying lesions by morphological as well as dynamic changes visible on serial recordings have become most informative.<sup>1</sup> The great majority of these contrast studies have been carotid and vertebral angiographies, translumbar aortograms, and a lesser number of femoral or transbrachial studies. Since 1963 retrograde studies by the Seldinger method have been utilized extensively to selectively demonstrate renal artery or aortic arch vascular obstructions.<sup>2</sup> With this method the great vessels of the head and neck can be clearly defined and by passing the catheter around the arch, as demonstrated by Sones,<sup>3</sup> the coronary vessels themselves can be outlined and obstructions defined.

This paper deals with our own experience

at the community hospital level with 1,142 angiographic studies during the past eight years. The information obtained, the obstacles and complications encountered, and the improvements in techniques and contrast dye material are discussed.

### Cerebral Angiography

Since its first use in 1927 by Egas Moniz, cerebral angiography has become one of the



Fig. 1. Direct carotid angiogram; complete occlusion of the left middle cerebral artery 3 cm. from its origin.

most popular and useful tests available in neurological diagnosis. It is interesting to note, however, that Dr. Walter E. Dandy, whose contributions to neurosurgery re-

main among the most outstanding of all time, wrote around 1938:

"Since ventriculography can accurately localize all intracranial tumors causing pressure, and without danger or after-effect, it is difficult to believe that there can be a place for arterial encephalography in the diagnosis or localization of brain tumors."<sup>4</sup>

Besides being the only means to demonstrate a vascular malformation and plan its management (Fig. 2), with cerebral angiography one is also able in most of the cases to predict the histology of a neoplastic lesion. (Fig. 3)

*Technique:* The patient is usually premedicated the night before by the anesthesiologist, who stands by during the procedure as well, although only one out of three cases

The artery itself is penetrated either by an 18 gauge straight spinal, or an 18 gauge Touhy needle. The latter is connected through a two-way stopcock to a 10 cc. syringe containing about 3 ccs. of a sodium citrate solution. Once a free backflow is obtained, the artery is gently cannulated for about one cm. or so. Using a rapid cassette changer which is able to expose up to twelve films in six seconds, 8 ccs. of Hypaque 50% are injected manually and as rapidly as possible for an anterior-posterior and then for a lateral view. After each injection the needle is washed with a small amount of sodium citrate solution in order to prevent any clotting within its lumen. If the pictures obtained are satisfactory, the needle is gently withdrawn and pressure is exerted downward over the artery itself for a few minutes in order to avoid any hema-

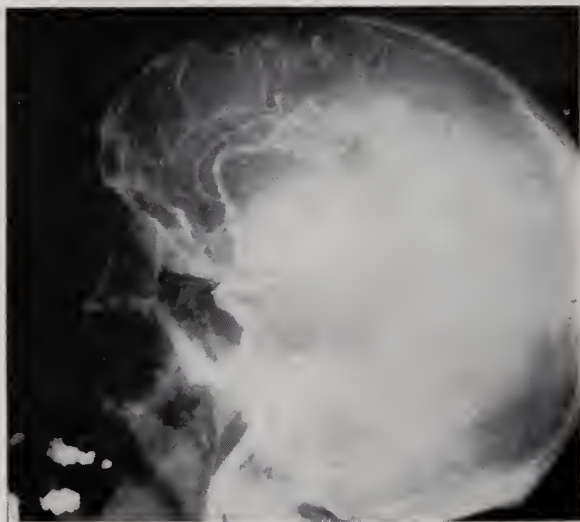


Fig. 2. Carotid angiogram: large aneurysm arising from the left middle cerebral artery. It has been ligated several years earlier at its neck, but the silver clip had reopened. Complete resection was performed.

may require the use of general anesthesia. The patient's blood pressure is carefully followed, particularly in cases where extracranial, carotid or vertebral artery insufficiency due to partial stenosis is suspected. The common carotid artery pulsation is palpated just above the clavicle between the trachea and the sternocleidomastoid muscle. The skin and the subcutaneous tissues are then infiltrated with the proper anesthetic.

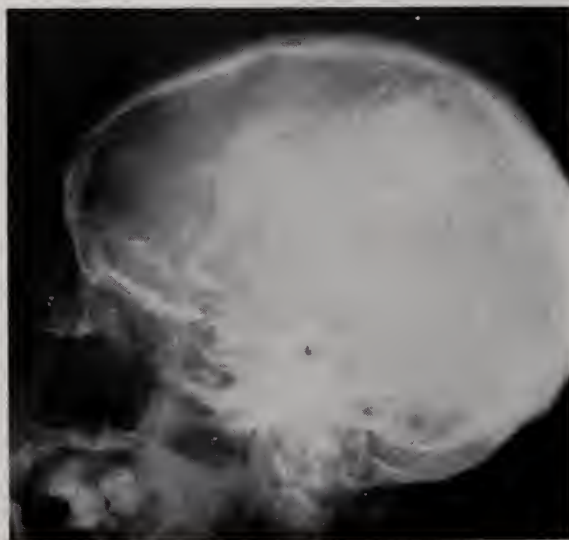


Fig. 3. Carotid angiogram: A "capillary" phase reveals a characteristic tumor stain suggestive of a left parietal parasagittal meningioma. This was verified at surgery and total removal was carried out.

toma. When necessary the procedure is repeated on the opposite side in the same fashion. The vertebral artery is injected in a similar way although with slightly greater difficulty. The patient is always returned to the recovery room, even when no general anesthesia has been used, for a period of observation of about an hour.

Between 1961 and 1966, 342 cerebral an-



giographies were performed with no mortality that could be in any way attributed to the test. Transient episodes of hypotension, probably of vagal origin, occur in about two percent of the cases. The patient will not infrequently complain of a slight tenderness with swelling in the area of the injection that may last up to twelve hours.



Fig. 4. Transfemoral arteriogram showing a long segmental blockage in the superficial femoral artery with an excellent outflow in the popliteal vessel. A satisfactory candidate (arteriographically) for a vein by-pass graft.

There were no cases where the pre-existing neurological status was aggravated. Finally, in this series, no allergic phenomenon occurred, even in patients who have had previous history of various hypersensitivity problems. The patients' ages ranged from three weeks to ninety-four years.

In cases in which a space occupying lesion is discovered by angiography, craniotomy need not immediately follow the procedure with any kind of urgency. This has always been the case with air studies, particularly ventriculography, because of a fairly sudden change in the pressure balance within the intracranial cavity with the introduction of

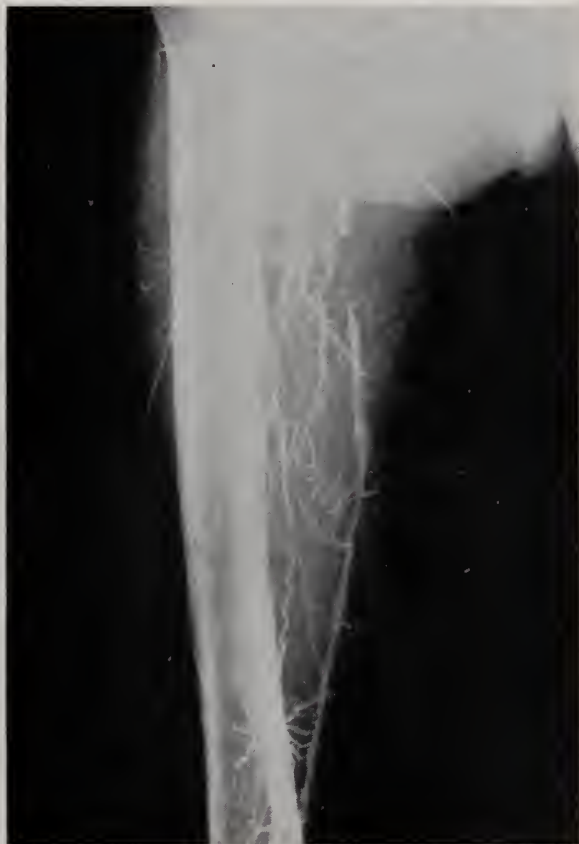


Fig. 5. Femoral arteriogram demonstrating the segmental block in the superficial femoral artery. Note also that the artery is narrowed markedly in several other sites below making a complete vein by-pass graft procedure our choice of operation over an endarterect mv. The vein by-pass between femoral above and popliteal below has a high patency rate and low infection rate in such patients.

the ventricular needle itself, as well as air. This is certainly of great comfort to the neurosurgeon, particularly when the lesion may be found to be inoperable, such as multiple metastasis, etc.

### Translumbal Aortography

This procedure is simple, safe, and affords a great amount of information regarding the lower aorta, iliac, and femoral vessels, as

well as the degree of run-off in the superficial femoral and popliteal arteries. In performing this study the physician enters the aorta at a level just above the renal arteries and usually above any obstructive plaques—thereby avoiding the complication of thrombus or atheroma dislodgement with secondary embolization. Those patients having peripheral vascular disease with claudication are candidates for this procedure since the test is completed quickly and the information obtained is vital in determin-



Fig. 6. Translumbar aortogram using the pressure injector and demonstrating a complete blockage in the right renal artery—(see arrow). The patient had severe hypertension.

ing whether or not direct vascular surgery or sympathectomy should be selected.<sup>5,6</sup>

*Technique:* The patient is evaluated medically prior to arterial contrast study with base line tests including EKG, BUN, and FBS, as well as a careful allergy history. Breakfast is withheld and an enema given on the morning of the test. A barbiturate and Demerol are used for sedation. The procedure is carefully explained to the patient and possible complications are frankly discussed.

After sedation the patient is turned on his stomach with his arms folded and his head to one side. The area is washed and

infiltrated with Novocain. The aortic needle is inserted at a level just above the renal vessels and approximately 25 to 30 ccs. of Angio-Conray is injected by hand and the first film exposed. A delay of about five seconds is allowed before exposing the run-off picture. In obese patients, it may be necessary to use the pressure injector thereby delivering a large volume of dye in a shorter period of time. We have used approximately 200 PSI (pounds per square inch) in such studies once it is certain that



Fig. 7. Retrograde transfemoral aortogram with arrow pointing to stenosis in the left renal artery in a patient with hypertension.

the aortogram needle is well within the lumen of the aorta.

During the period 1958 to 1965 approximately 555 translumbar aortograms have been done with no mortalities and few significant complications.<sup>7,8</sup>

*Complications:* The introduction of a rather large 16 bore needle directly into the aorta can produce a hematoma in the retro-aortic<sup>7</sup> area and this has occasionally been visualized several days later at the time of aortic surgery. With the introduction of the needle above the renal vessels, there is very little risk of dislodging an arteriosclerotic plaque and fortunately we have not had a problem with dissection. Our complications have been related to the lumbar pain secondary to the needle insertion site, and this seems minimal when considering



the value of the test itself. We had one case of post aortogram hypotension in a young married woman with hypertension which cleared over twenty-four hours. In this case the pressure injector was used to rule out renal artery stenosis and a hematoma probably occurred at the injection site in the aorta. Great care must be taken to be sure that the needle opening is well within the



Fig. 8. Transbrachial retrograde aortogram with arrow indicating the obstructing plaque at junction of innominate artery division into subclavian and right common carotid vessels. In this case, the atheroma caused repeated transient episodes of stroke and was successfully removed through a sternum splitting incision and endarterectomy procedure.

lumen of the aorta before the dye is injected—especially if one is to use the pressure injector. The use of a new dye contrast—Angio-Conray—seems to be very much less irritating than the Urokon formerly used, and the same iodide content produces equally good contrast.

### Femoral Arteriography

Where arterial blockage is limited to one

side with a good femoral pulse but absent pulsations below this level, a direct femoral arterial injection of contrast media is indicated to demonstrate the level of obstruction and the degree of popliteal or superficial femoral run-off.

*Technique:* This injection is performed with a small needle (No. 18) with prior sedation, prepping of the groin area, and



Fig. 9. Retrograde transfemoral aortogram showing a "kink" in the left vertebral artery.

infiltration of local anesthesia. Approximately 15 ccs. of Angio-Conray is injected with the x-ray plate placed to demonstrate the level of blockage and popliteal run-off. Figures 1, 2, and 3 demonstrate the x-ray findings following transfemoral injection. In all of these, obstructions can be seen at the level of the superficial femoral or profunda vessel with adequate run-off in the distal superficial femoral or popliteal vessel. It is this demonstration of run-off that is so critical in the determination of operability.<sup>9</sup>

*Complications:* During the period 1958 to 1965, 250 transfemoral arteriograms were done with no significant complications or morbidity. Local hematomas are much more prone to develop in the femoral area than following a translumbar aortogram, and great care must be taken to maintain



adequate compression over the puncture site to avoid same. Recorded in other series are the flaking off of plaques in this area with subsequent embolization problems. We feel that this complication can be avoided if a satisfactory femoral pulse is present indicating the absence of a plaque at the point of needle insertion. If there is any question about the suitability of the femoral vessel, then the higher translumbar injection should be elected. Pain in the limb during the injection is intense and the use of intravenous Demerol may be indicated.



Fig. 10. Transfemoral retrograde aortogram of the same patient showing complete aortic arch and all four vessels patent. Again note "kinked" left vertebral artery.

### Transfemoral Retrograde Aortography

The use of the retrograde transfemoral method demonstrating the aorta and its branches has been popular since about 1963. With the use of the pressure injector and the improvement in catheter techniques, it is now possible to perform safe retrograde femoral aortography as demonstrated by Halpern, Sones, Seldinger and others.<sup>2,3,10</sup>

**Technique:** This procedure requires the use of a plastic catheter and a special needle. After suitable preparation of the groin area, the needle is introduced into the femoral

artery and a small guide-wire with a coiled spring tip is passed through the needle into the vessel. The needle itself is then removed over the guide-wire and the catheter is passed back over the guide-wire into the artery and the guide-wire removed. This allows a snug catheter fit at the arteriotomy opening and prevention of bleeding and hematoma formation around the puncture site.

The catheter itself is then passed retrograde (cephalad) and can be visualized using the fluoroscope with image intensifier and television attachment. When the catheter tip is positioned opposite the appropriate vessel, Angio-Conray is injected via the pressure injector and appropriate sequential pictures taken. It is important to assure oneself that the catheter is intraluminal and a small injection of dye by hand can be done to demonstrate the correct position. The use of the catheter obviates hand injection, since the resistance flow is so great that a satisfactory volume of dye cannot be injected rapidly. Therefore, the use of a pressure injector is essential, and we use approximately 150 to 300 pounds per square inch (PSI) depending on the location of the catheter tip and the test to be performed.

As seen in the accompanying figures, the retrograde catheter technique reveals visualization of a renal artery stenosis, a marked kinking of the left vertebral artery, and a complete demonstration of the aortic arch and all four vessels (i.e. innominate with its subclavian and common carotid divisions, left common carotid, and left subclavian).

**Complications:** In our own series of retrograde studies there have been no mortalities and morbidity has been restricted to small hematomas at the puncture site which can be controlled with proper pressure.

In some patients there is a significant emotional overlay and in these cases a general anesthesia is necessary to prevent psychic trauma. However, in the great majority of cases patients are able to accept

the diagnostic test without difficulty. It is important to notify the patients that with the injection of the dye they may feel momentary pain due to arterial spasm. Following removal of the catheter, finger pressure over a gauze sponge pad must be maintained for five to ten minutes and the patient is placed on bed rest with a five pound sandbag taped over the injection site for six hours. Other larger series have reported the development of a false aneurysm at the injection site, massive hematoma from obvious vessel perforation in an area that cannot be reached from pressure control, and occasional guide-wire fracture which must be removed surgically by direct arterial entrance at a later date. We believe that some of these complications may be avoided by gentle and discrete use of the instruments involved and visualization of the guide-wire and catheter as they are met the catheter can immediately be visualized and should be withdrawn until a free passage is obtained. Retrograde transfemoral aortography should not be attempted if there is any significant obstruction in the lower aorta or iliac vessels since there is danger of dislodging a plaque or thrombus or arterial perforation. In these instances the transbrachial approach should be selected.

### Summary

It is doubtful that during the past twenty years a more significant diagnostic step has been made than the development of intra-arterial injections of contrast materials for diagnostic purposes. By means of these studies almost all vessels of the body are now amenable to proper visualization thereby determining the presence or absence of disease in the vessel itself or the organ supplied. Refinements of intra-arterial needles, techniques, and dye have placed these procedures in the acceptable risk category of diagnostic studies. The introduction of the pressure injector for retrograde arterial studies has made the

transfemoral or transbrachial introduction of a retrograde catheter acceptable from the point of view of safety and a clear demonstration of vessels to the heart, brain, kidney, and other vital organs. Without such diagnostic studies, the possibility of correct diagnosis is often impossible and in many instances the prevention of unnecessary surgery is achieved. A visual appraisal of the vascular status provides an improved degree of predictable success or failure to both the physician and the patient prior to surgery. In closing we would like to give a firm vote of confidence to translumbar aortography in appropriate cases and urge that it not be completely abandoned. In experienced hands translumbar aortography has proven its relative ease and safety as confirmed by our experience and larger series such as DeBakey, et al. The technique utilized should be the one with which the diagnostician is most familiar and best demonstrates the vascular problem at hand.

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### Multidisciplinary Study of Mononucleosis-like Conditions

The Laboratory of Clinical Investigations, National Institute of Allergy and Infectious Diseases, National Institutes of Health, has initiated a study of infectious mononucleosis, infectious lymphocytosis, and related diseases. Patients with acute infectious mononucleosis-like illnesses with clinical manifestations of fever, malaise, lymphadenopathy, pharyngitis, and peripheral lymphocytosis with atypical forms are being sought.

Areas of investigation are the virologic, hematologic, and immunologic manifestations of these disease syndromes:

**Virologic studies**—Attempts will be made to demonstrate or isolate an infectious agent with a variety of newly developed tissue culture techniques.

**Hematologic studies**—The function of the atypical lymphocyte will be studied in

terms of DNA, RNA, and specific immunoglobulin synthesis.

**Immunologic studies**—Origin and classification of the heterophil antibody, acute phase proteins, and serum immunoglobulins, as well as the production of the specific agglutinins associated with acute hemolytic anemia will be studied.

Upon completion of their studies the patients are returned to the care of their referring physicians, to whom complete narrative summaries are sent.

Physicians interested in referring patients to the study, in which they will receive complete diagnostic evaluation and care in the NIH Clinical Center, are asked to contact the Acting Clinical Director, Laboratory of Clinical Investigations, National Institute of Allergy and Infectious Diseases, Bethesda, Md., telephone Area Code 301-656-4000, extension 64963.



# Inaugural Address

WILLIAM H. HIGGINS, JR., M.D.  
Richmond, Virginia

IN JANUARY 1822, 145 years ago, the Richmond Academy of Medicine first began holding its meetings. Except for one or two brief intervals this organization has met regularly ever since to exchange information on recent medical advances—and to discuss the problems which continually face doctors in the practice of medicine. From the first president, who was Dr. James McClurg, until the most recent, Dr. Carl Meador, the Academy has enjoyed a quality of leadership unlike any other organization. To follow in the footsteps of these distinguished men who have cheerfully given so much of their time and ability in what is not always an easy task is the highest honor a member of the Academy can be given. I am at once overwhelmed to be so designated, and at the same time overcome by the responsibility you have placed on me. I must thank you on the one hand and on the other ask your indulgence, patience, and support as we go through this year together. I am truly over my head and will be in continual need of your help.

It is the responsibility, as I see it, of the President of the Academy to assume active concern not only for the affairs of the Academy but for the activities of the medical profession in the community in general. Thus in my first moment before you I ask you to share with me some of my worries and some of my hopes for the Academy.

I worry first about the Academy. With all too frequent and compulsory staff meetings at the various hospitals most of our members have not found the time or incentive to attend Academy meetings regularly. In the past many programs have appealed to only the special interest of a small number of the members while the great majority felt no attraction at all. With a lagging

attendance a lagging interest in Academy affairs has followed—and thus during recent years the strength and influence of the Academy has dwindled. Only a small hard core of faithful members regularly attend. It is my hope and that of your Program Committee to change this and I would wish for greater general interest and active participation in the Academy programs. We have dug up, revived, and plan to enforce an old By-law which will limit papers to fifteen minutes. This will enable more discussion and mercifully permit shorter and maybe even more enjoyable programs.

Much of the future of the Academy depends upon our recent and new members. I am anxious that they soon participate not only in the programs but in Academy activities and on Committees. I have asked the Membership Committee to interview each applicant and to encourage them in these activities, and particularly urge them to attend the meetings. Sponsors of new members will also be urged to attend the meetings at which their candidates are proposed and elected—and that they make every effort to introduce these young men to the older members. And as older members we should make every effort to welcome them.

From time to time throughout the year we will try to interest you in Academy activities and solicit your participation. Committee appointments, which you have received by now, have been made with the idea of broadening the base of members participating in Academy affairs. Committee chairmen will be asked to give periodic progress reports so that the general membership may know what is going on and be able to give advice and support, or constructive criticism.

I feel that the Academy should concern itself more about community medical prob-

Presented before Richmond Academy of Medicine, January 10, 1967.

lems. There are many which some members do not know exist. For example, how many of us fully appreciate the problem that the medically indigent in this city have in receiving adequate medical care? It is not fitting for us to be unconcerned that the outpatient clinics of MCV and the City Health Clinics are desperately understaffed and crowded beyond their ability to provide proper medical attention to the indigent. The patients often have to make several return visits to see various consultants and to get laboratory tests before a diagnosis can be made or treatment begun. There is little chance of continuity of doctors or follow-up and, all in all, the quality of their medical care is far from ideal. The Dean at the Medical College, Dr. Kinloch Nelson, and the Director of Ambulant Services there, Dr. Gabriel Hilkovitz, have evidenced grave concern over the unsatisfactory management of this aspect of community medical service.

The future holds evidence of even greater activity in the whole field of health care: more patients, more children, more aged patients, more chronic diseases, greater public interest in early diagnosis and treatment, more attention to minor illnesses and injuries, and expanding medical insurance programs. The MCV out-patient clinics even now daily are forced to refer large numbers of applicants to the city health clinics. And these clinics are now at almost maximum capacity. The Academy of Medicine cannot be aloof to these community health needs. It may well be if the present problem worsens that all of us will have to consider turning in and functioning as general physicians taking care of the needs of the people in such general clinics, much as our forefathers did in their responsibility to the needy of their communities.

It is my hope that the Academy will assume active leadership in working with MCV, the City Health Department and other responsible parties in the problems of community health needs. The health and medical welfare of the people of this area

are certainly our responsibility.

To the amazement of many of our lay friends, Medicare and the new extended-care services which began January first have already put pressures on the ethical standards of many of us. Human nature and the welfare state being what they are, there is little doubt that when the elderly patient who has been getting custodial care in a nursing home—or burdensome care in a relative's home for months or years, now will want admission to a hospital as a passport to "free" nursing home care. Even greater pressures can come from the children or grandchildren, who have been paying the bills, to certify a need for hospitalization merely in order to shift the burden from family to Medicare. Some physicians may well feel an obligation to help patients qualify, even if, honestly speaking, hospitalization isn't for precisely the same condition as the extended care that follows. But we must resist these pressures, great as they will be, and somehow hold fast to our integrity and ethical standards.

I worry a great deal about the future of organized medicine. Meetings of local medical societies such as the Academy meeting make up the grass roots of organized medicine on a state and national level. Yet how many of us really participate or even have interest in medical affairs beyond this level? Serving in the House of Delegates of our State Society meetings is a valuable and stimulating experience which more of our members should share. Although experienced delegates to the House are vitally important, it is my hope that we can provide this rich opportunity to at least a few who have never served before. During the year I hope that our representative on Council of the State Society and our delegate to the American Medical Association will periodically keep us informed and hopefully interested in medical activities at these levels. Representatives from the vitally important Virginia Medical Political Action Committee, which incidentally we should all support, will be asked to keep us abreast



of medical political affairs. We are uniquely fortunate to have among us the President-elect of The Medical Society of Virginia, Dr. Thomas Murrell, Jr., who this year and next year as President will have much first-hand information on state and national medical problems. I hope we will hear from him often and that he will keep us up to date on these important matters.

It is my feeling that if local medical societies are informed, concerned and willing to participate in medical affairs, the future of organized medicine at the national level will be much healthier and brighter. It is my intention to keep you informed on medical matters to the best of my ability. I hope that you will be concerned and willing to participate to the best of your ability.

During recent years the Academy has grown enormously in size. While doing so, certain of its needs, its purposes, and its boundaries have changed, and in some areas a degree of laxness has developed. Our By-Laws need revising and our rules and regulations need reappraisal. A committee of distinguished senior members of the Academy has been studying these factors and will soon present new By-Laws. We need to tighten our guidelines and maintain a more strict surveillance of our ethical standards.

In the belief that honest criticism of our doctor-patient relationships can only be helpful to us all, I am asking the Chairman of the Mediation Committee to give periodic discreet summaries of the types of complaints his committee receives. In the past most of these have been the result of poor communication between doctor and patient and are easily solved. That this problem continues to recur may be sufficient reason to remind us of this vitally important aspect of medical care. It is a rare person who cannot be helped by constructive criticism and we should welcome it.

In past years the problem of the medical ethics of several of our members has been a cause of great concern to all of us. I feel very strongly that we must keep our own

house in order and deal promptly but fairly with all problems which reflect in any way upon the ethics of any member. A committee composed of some of our most respected members will assume this unpleasant yet highly necessary duty of fairly evaluating any charge. It is of paramount importance to the medical profession that its members maintain at all times without compromise the highest level of medical ethics. It is my hope that this committee will of necessity be entirely inactive this year.

It is presumptuous of me to speak wistfully of doctors as individuals. Yet as individuals we can do much to help the name of our profession—just as we can as individuals damage it. I would encourage our members to participate more in civic and community affairs. Other professional and business men find or make time to interest themselves actively in the life of their neighborhood, church, or civic organizations—and so can we. Being a good doctor does not make us a good citizen and I feel we could be better citizens.

And finally, I would hope for 1967 to see the members of the Academy have more fun. The social hour at the end of each meeting is a good reason in itself for us to come to the meetings. Most of us see far too little of our colleagues and tend to stick to small groups too much. We have an enormous amount in common and we could easily enjoy each other if we tried. Perhaps a good catalyst would be our wives. Largely because I like to look at the ladies, and because I think they would make our meetings more enjoyable, and certainly more exciting—I am asking the members to bring their wives to the meetings. Certainly they will make the meetings more interesting.

New Year's resolutions, if not too idealistic, need not necessarily be broken. And so, too, my hopes for the Academy for this year need not be day dreams. Yet the President can only do so much by himself—a great deal also depends on you.

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# Contraceptives

## Report of a Survey

*The widespread use of contraceptives is one approach to the pressing need for population control.*

AS PREVENTIVE and therapeutic medicine provides more effective death control at younger ages, the increasing population stimulates interest in corresponding methods of birth control. This has resulted in the development of a number of contraceptive methods, some of which are highly effective, others whose effectiveness is questionable.

The effectiveness of the various methods has been demonstrated by many studies and is not pertinent to this particular discussion. Regardless of the demonstrated effectiveness of a method under controlled conditions, it is obviously ineffective if it is either not used by the patient or not prescribed by the physician. No information has been available to indicate the number of physicians prescribing contraceptives or the frequency distribution of the methods prescribed.

### Survey Design

In an attempt to obtain some data regarding the prescription of contraceptives by physicians in the State, a questionnaire was sent to a sample of all practicing phy-

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sicians in the State to inquire as to the contraceptive prescriptions of these physicians.

There are approximately 5,502 physicians licensed to practice in the State of Virginia. This includes interns, residents, retired physicians and physicians employed by various governmental agencies and private industry. It was decided that an adequate sample could be obtained by selecting every fourth name on the Roster of Licensed Physicians in Virginia. The initial name was selected at random, and, thereafter, every fourth name was selected to receive a questionnaire. Physicians actively engaged in Public Health whose names were selected were removed from the list since an additional questionnaire was sent to each local health department requesting information relative to the number of patients receiving contraceptives through local health department programs.

The questionnaire requested an estimate of the number of patients using selected contraceptive methods during the past year, the number of failures and opinion as the reason for the failure, the number of patients discontinuing contraceptive use for medical reasons, the number of sterilizations performed and the physician's type of practice. Information is available as to the number of physicians certified by various specialty boards. However, no data are available to indicate the number of physicians who are not diplomates but who limit their practice to a certain medical specialty.

A sample of physicians who failed to respond to the questionnaire were visited for a personal interview. There was no appreciable difference in response to the questions

among those not replying to the mail questionnaire. Accordingly their answers are included in the total responses.

Discussion

A number of replies indicated that the physician in question was retired, engaged

Table II gives a distribution by method of patients reported using contraceptives. Unfortunately, not all the data were adequate; therefore, the number of individuals reported as using contraceptives is based entirely upon those reports considered to contain adequate data. In many in-

TABLE I  
RESPONSES BY TYPE OF PRACTICE

TYPE OF PRACTICE	Number Responding	Percentage Distribution	Number Furnishing Adequate Data	Contraceptive Prescribed	
				Yes	No
Anesthesiology.....	3	0.7	3	0	3
Dermatology.....	10	2.2	10	0	10
ENT.....	18	4.0	18	0	18
General Practice.....	107	23.5	80	86	10
Geriatrics.....	1	0.2	1	0	1
Hematology.....	2	0.4	2	0	2
Internal Medicine.....	56	12.3	34	21	23
Neurosurgery.....	5	1.1	5	0	5
OBS-GYN.....	30	6.6	15	30	0
Occup. Medicine.....	4	0.9	4	0	4
Ophthalmology.....	12	2.6	12	0	12
Orthopedics.....	11	2.4	11	0	11
Pathology.....	13	2.9	13	0	13
Pediatrics.....	38	8.4	38	0	38
Psychiatry.....	33	7.3	15	10	9
Radiology.....	16	3.5	16	0	16
Surgery.....	58	12.7	29	20	22
Urology.....	10	2.2	10	0	10
Miscellaneous.....	6	1.3	6	1	5
Other*.....	22	4.8	.....	..	..
Total.....	455	100.0	322	168	212

\*Dead (4), House Staff (10), refused to answer (4), no information (4).

in a residency, had died, or refused to answer the questions. A total of 433 physicians answered the questions as to whether or not contraceptives were prescribed and of these 322 or approximately 75% returned data adequate for analysis.

Table I is a summary of responses by type of practice.

One hundred and sixty-eight (38.8%) of the physicians indicated that they did prescribe contraceptives or would refer the patient to another source. Those who did prescribe contraceptives were general practitioners, internists, surgeons, obstetricians, gynecologists, and psychiatrists. All Obstetricians and Gynecologists indicated that they prescribed contraceptives as did 90% of those engaged in General Practice.

stances this was an estimate based on the physicians experience while in others it rep-

TABLE II  
NUMBER PATIENTS BY CONTRACEPTIVE METHOD

Method	Number Patients	Percentage Distributions
Oral.....	11,963	79.5
Diaphragm.....	912	6.1
Rhythm.....	743	4.9
IUCD.....	477	3.2
Condom.....	473	3.2
Foam or Cream.....	442	2.9
Suppositories.....	35	0.2
Total.....	15,045	100.0

resented a search of his records. Certain estimates were considered completely out of line and accordingly were not included. The

total of 15,045 individuals on contraceptives thus actually represents the experience of 322 physicians, the majority of whom do not prescribe contraceptives at all.

The most popular method was the oral contraceptive. Following in order of frequency were the diaphragm, rhythm, intra-uterine device, condom, and foam or creams. A few physicians still prescribed suppositories.

An additional contraceptive method is gaining popularity when desired family size has been achieved. Responding physicians reported performing 567 sterilizations on female patients and 202 sterilizations on males. Recent changes in the State law dealing with voluntary sterilizations is felt largely responsible for this frequency.

Reversal of the birth rate trend is indicative of family size limitation. It is uncer-

tain whether this is the result of more effective contraceptive methods or a greater desire for smaller families. Regardless of the reason, this survey indicates that the majority of physicians concerned with general medical care of women will and do prescribe contraceptives.

### Summary

Thirty-eight and eight-tenths percent of Virginia physicians responding to the question "Do you prescribe contraceptives?" answered in the affirmative. Ninety percent of generalists and one hundred percent of obstetricians and gynecologists prescribe contraceptives, of which the most widely used are the oral agents (79.5%).

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Richmond, Virginia 23219*

### Longevity Relatively Unchanged

Longevity in the United States has changed but little in recent years. The average length of life in 1965 was 70.2 years, the same as in 1964. It had previously reached that figure in 1961, after which an unusually high prevalence of acute respiratory disease resulted in slight setbacks for two years.

The improvement since the turn of the century has been great. Based on today's mortality conditions, three-fourths of the newborn may be expected to reach their 63rd birthday and half may attain 75 years of age. Around 1900, according to mortality conditions prevailing at that time, less than half the newborn were expected to reach age 63 and only a fourth had prospects of living to 75. However, the bulk of this progress was achieved in the earlier part of the century, in sharp contrast to the relatively stationary situation in the past decade. Between 1900 and 1956 expectation of life at birth, for all persons, increased by over 20 years, but since then it improved by less than a year.

In 1965 the expectation of life at birth

for white females was 74.7 years, an increase of only a year since 1956. Among white males the corresponding figures were 67.3 years in 1956 and 67.6 in 1965, a gain of just three-tenths of a year. These changes continued to widen the difference in longevity between the sexes. In 1965 the expectation of life at birth among white females exceeded that for white males by 7.1 years, compared with 6.4 in 1956 and just 2.9 years at the century's turn.

The longevity of nonwhite persons is considerably less favorable than that of whites. Among nonwhites the expectation of life at birth in 1965 was 61.1 years for males, the same as in 1956. Among nonwhite females the figure rose from 65.9 years in 1956 to 67.4 years in 1965, increasing their advantage over the males from 4.8 to 6.3 years. The current expectation of life at age 5 is 5.2 years less for nonwhite than for white males; the difference is 6.0 years among females at that age.

(Statistical Bulletin, Metropolitan Life Insurance Company)



# *Clinicopathological Conference . . . .*

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## **Rapidly Evolving Renal Failure in an Elderly Woman**

Prepared and Edited by

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### **CLINICAL DISCUSSANT:**

Frederic B. Westervelt, M.D.  
Assistant professor of internal medicine

This conference was held on February 11, 1967.

UVH #34-35-00  
Autopsy No. 10937

### **Clinical History**

This 74-year-old Negro housewife was admitted after approximately a week of ill-defined symptoms, principally diffuse abdominal pain and "feeling bad all over". She had been admitted to the hospital on numerous previous occasions for treatment of varicose veins and stasis dermatitis.

During a hospitalization in 1965 she was found to have a papular rash over the arms, chest and back, which was called lichen simplex chronicus. Incidental findings at that time included blood pressure 126/74 mmHg, a normal urinalysis except for a trace of protein, and a blood urea of 32 mg.%. She had a fasting blood sugar of 134 mg.%, and a 2-hour post-prandial sugar of 179 mg.%. Treatment of her rash with topical steroid and antibiotic ointment gradually produced improvement, and she was given a course of Erythromycin for treatment of an infected stasis ulcer. In the year since that time she had remained apparently well except for obesity, and she had taken no medications.

About one week before admission the patient began to remain in bed and com-

plain of painful discomfort in all extremities and the abdomen. Her only intake became sips of water. By the time of admission she was weak and disoriented, and much of the history was provided by her family. There had been no nausea, vomiting, injury, cough or chest pain. In the past few days the generalized abdominal discomfort had been the predominant symptom.

*Physical Examination* on this admission showed an obese, elderly woman, moaning and confused. Blood pressure was 170/98, temperature normal. There was mild, diffuse abdominal tenderness without any localizing findings. There was marked, brawny edema of the legs with stasis dermatitis in various stages and some cellulitis. Except for mild confusion, neurological examination was unremarkable. The optic fundi and cardiovascular system were within normal limits.

*Laboratory studies:* Initial hematocrit 37%, falling to 31% after hydration. WBC 16,600-7,000. Blood urea 246 mg.%, serum creatinine 11.2 mg.%. Urinalysis showed pH 6, 2+ proteinuria, no sugar, over 100 rbcs per high-power field, and granular and hyaline casts. Urine culture was sterile. Blood sugar 122, calcium 9.3, uric acid 15.3 mg.%, Na 128, K 4.5, Cl 78, and CO<sub>2</sub> 21 mEq/L. Chest x-ray showed slight left ventricular enlargement, and electrocardiogram showed non-specific T-wave changes. Skull x-ray showed only hyperostosis, and retrograde pyelogram was normal. A renal arteriogram showed decreased vascularity and will be discussed. Antistreptolysin-O titer was 333 units (normal up to 150). The urine sodium concentration was 50-84 mEq/L.

*Hospital Course:* After the second hospital day parenteral hydration in excess of 2 liters of fluid daily was used, but urine volumes remained 200-400 ml. A pelvic

mass was difficult to exclude because of obesity. Cystoendoscopy and retrograde pyelogram were performed to exclude an obstructive cause of renal failure. Plasma osmolarity was 305 mOsm, and urine was 320 mOsm. She was given penicillin. On 11/19/66, she had a grand mal seizure, with head turning to the left and convulsive movements of the right side. Spinal fluid was unremarkable. After this she received dilantin, and remained obtunded. Small amounts of blood appeared in nasogastric aspirate, but otherwise there was no significant change in her picture of obtundity and labored breathing, and she expired on the seventh hospital day.

### Clinical Discussion

*Dr. Frederic Westervelt, Jr.:* We are confronted today with the problem of an elderly woman who, it is suggested, became fatally ill over a period of two weeks. Her final illness was characterized chiefly by oliguric renal failure. As the nature of this was, and remains to me, obscure, I must deviate from recent custom and avoid citations of pertinent medieval literature, a diversionary device sometimes employed in these discussions.

Consideration of her past helps me not, except possibly for her mild diabetes and proteinuria a year ago, when she was not azotemic. I can unearth no connection between lichen simplex chronicus and her renal disease, nor can I clearly implicate her peripheral venous disease. She received no nephrotoxic drugs, sustained no known trauma, and had no overt streptococcal infections, although her cellulitis might be suspect.

Her earliest complaints included abdominal and lower extremity pain, and diffuse abdominal tenderness was noted. I cannot logically elaborate upon this theme from the information given, and remain at the mercy of the pathologist for an explanation. Atypical cholecystic disease, mesenteric vascular insufficiency or, in view of

the somewhat inordinately elevated serum uric acid, abdominal lymphoma could be considered, although none satisfies me.

Similarly, her degree of obtundation, with seizures, seems impressive. Absence of preictal localizing neurologic abnormalities, and the unremarkable spinal fluid and skull films leave me uncomfortably dependent upon uremia as an explanation for her central nervous system malfunction. One must avoid the temptation to incriminate too readily "uremia" in all its complexity, in seizure states of azotemic patients.<sup>1</sup> Unrelated intracranial disease must be sought, as must intracranial hemorrhage. Aberrations of internal environment which accompany renal failure but which may be dissected away from "uremia," such as hypertensive encephalopathy, severe hypocalcemia, hyponatremia and water intoxication, and infection commonly lead to seizures in such patients, and dictate a specific course of action. In this instance none of these seems tenable (although her positive water balance at that time makes me ponder the import of cerebral edema), and again I must move humbly on, unenlightened.

Let us consider the various reasonable causes of renal failure which might here exist. She remained oliguric, despite ample rehydration and seemingly adequate blood pressure. Proteinuria was modest, and the urine sediment non-specific. Micro-hematuria, doubtless augmented by catheter and cystoscope, is possibly meaningful, but would be more so if accompanied by blood casts or doubly refractile fat bodies as clues to glomerular disease. The urine sodium concentration approximated 50-84 mEq/L, tending to sway me from a process causing acute renal hypoperfusion or major renal vascular accident, as well as glomerulonephritis. Under these circumstances a lower urinary sodium concentration would be expected. That her osmotic urine/plasma ratio was near unity does not alter this impression, as the ability to concentrate urine may be lost early in pre-renal oliguria. In young persons pre-renal hypoperfusion is



frequently accompanied by a concentrated urine, but in the oliguric elderly this is a far less valuable hint of intact renal tubules than is the continued ability to reabsorb sodium.<sup>2</sup> Urine of this composition is characteristic of acute tubular necrosis, of course, but we cannot fathom a cause for such from the protocol.

It is next reasonable to consider obstruction to urine outflow, and this was done by means of retrograde pyelography—function was clearly too poor to permit the use of intravenous pyelography, although with drip or double-dose techniques such may be done in the presence of serum creatinine concentrations up to 5 mg.% or so. Furthermore, the question of a pelvic mass had been raised. May we see these films, and the renal arteriograms, please?

*Dr. David Nevill:* The chest x-rays show no significant change in the period of a year and contain no apparent information of importance regarding the cause of her renal failure. Her obesity impaired the definition which we would like to have in interpreting the abdominal films, but there are no obvious masses, calcification or other sources of pathology. The retrograde pyelogram is normal, and there is no destruction of the calyceal system of the kidney. The arteriogram shows no major vascular obstructions, but there is a pruning of multiple small vessels within the renal parenchyma. The lack of opacification of the renal parenchyma in the late films—the so-called “nephrographic phase”—reflects the marked loss of renal function in the patient.

*Dr. Westervelt:* What about the overall size of these kidneys?

*Dr. Nevill:* The outlines are indistinct, but we would call these normal in overall size.

*Dr. Westervelt:* It was my impression that these kidneys might be somewhat small for a very obese woman. At any rate, lower tract obstruction has been excluded, as has major arterial disease, causing us to ponder

renal parenchymal disorder. The therapeutic mission of excluding surgically remediable causes of renal failure has been accomplished. Ordinarily we might next attempt to clarify the issue with a renal biopsy. Even the most intrepid biopsyst would be reluctant to intrude upon such a critically ill patient, however, and we must proceed without such information.

As I have outlined, I cannot justify “acute renal failure” here. Lest we be tripped up semantically, I use this term not in a temporal, but in a functional-morphologic sense with implications of reversibility. A disease may, of course, be “acute” in duration, but “chronic” structurally. I think we see here the culmination of insidious progressive disease, but what?

I shall avoid the desperate, although unifying, flounderings toward “vasculitis” so tempting to one contending with a CPC, and will consider specific renal diseases to the exclusion of her other symptoms. Pyelonephritis seems unlikely because of lacking history, sterile urine and normal calyceal form. The hyperuricemia suggests the possibility of urate nephropathy, although she had no personal or family history of gout. The attenuated small renal vessels noted by angiography might reflect the vascular component of this process. Indeed, simply nephrosclerosis may be the problem; although she lacked hypertension, her heart was slightly enlarged. Her background of diabetes suggests to me the possibility of diabetic nephropathy—not necessarily or solely, classic diabetic glomerulosclerosis, but perhaps an early form of this and nephrosclerosis.

There are no grounds for pinpointing specifically her disease. I shall move blindly forward, tremulously grasp diabetic nephropathy with nephrosclerosis as my diagnosis, and await the chuckles of the pathologist.

*Dr. William Edmondson:* What about the absence of retinopathy if this is to be renal failure due to diabetes?



*Dr. Westervelt:* The absence of retinopathy would be somewhat against this being diabetic nephropathy but would not exclude it. We have seen diabetic glomerulosclerosis without retinopathy, as have others,<sup>3</sup> and indeed without proteinuria.<sup>4</sup>

*Dr. Jack Gwaltney:* Why couldn't this be post-streptococcal glomerulonephritis?

*Dr. Westervelt:* In the absence of distinctly elevated or rising ASO titer, or cultural information, we have no evidence of streptococcal infection. Urine sediment does not show enough of the changes of a glomerulitis. The age is somewhat against this also.

*Dr. Munsey Wheby:* Why do you say that the urine sediment fails to show evidence of glomerulitis? She has proteinuria and hematuria.

*Dr. Westervelt:* Hematuria and proteinuria alone are fairly non-specific findings in both renal disease and disease of the lower urinary tract. I have assumed that the red cell casts and doubly refractile fat bodies, which would be indicative of a glomerular disease, were carefully looked for and were not found. If these were present yet missed, this could indeed be glomerulonephritis.

What are the student diagnoses?

*Dr. Edmondson:* The student diagnoses were predominantly in favor of acute glomerulonephritis, with lesser numbers recommending renal vein thrombosis, hypernephroma, or a non-specific vasculitis.

#### DR. WESTERVELT'S DIAGNOSIS:

1. *Chronic renal parenchymal disease, probably diabetic nephropathy with arteriolar nephrosclerosis.*

#### Pathological Discussion

*Dr. Eugene A. Foster:* Because of the patient's clinically severe venous disease of the lower extremities and recent cellulitis on the right, Dr. Rudé, who performed the autopsy, searched carefully for venous

thrombi. The first photograph (Fig. 1) demonstrates the multiple, small, recent thrombi he found in the veins of the right



Fig. 1. Cross sectional surface of the muscles of the right calf with large and small thrombi distending the deep veins.

calf. None were found on the left or in the vena cava or pulmonary arteries. In the soft tissues of the right leg (Fig. 2)

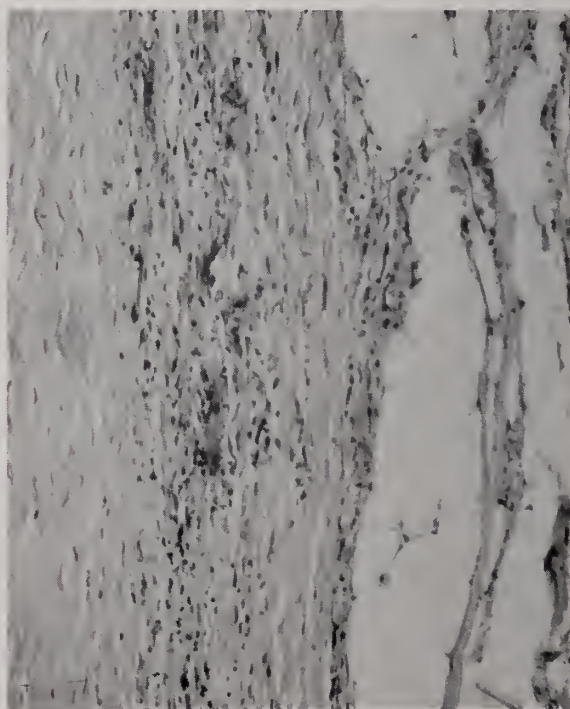


Fig. 2. Deep dermal and subcutaneous tissue of the right leg. Fibrosis, lymphocytic infiltration and focal calcification of collagen are the residues of stasis, chronic edema and cellulitis. (H. & E. stain, 160 X.)

there were lymphocytic infiltration, slight to moderate fibrosis and focal calcification—all of which we interpret as residuals of

the episodes of cellulitis the patient had in the past. These findings can be correlated adequately with the clinical symptoms related to the lower extremities but apparently did not contribute directly to the principal features of the patient's terminal illness.

The kidneys were as interesting pathologically as they were clinically. They were slightly enlarged to about 150 grams each and had pale, slightly swollen cortices. There were sharply defined petechiae scattered uniformly throughout the renal paren-

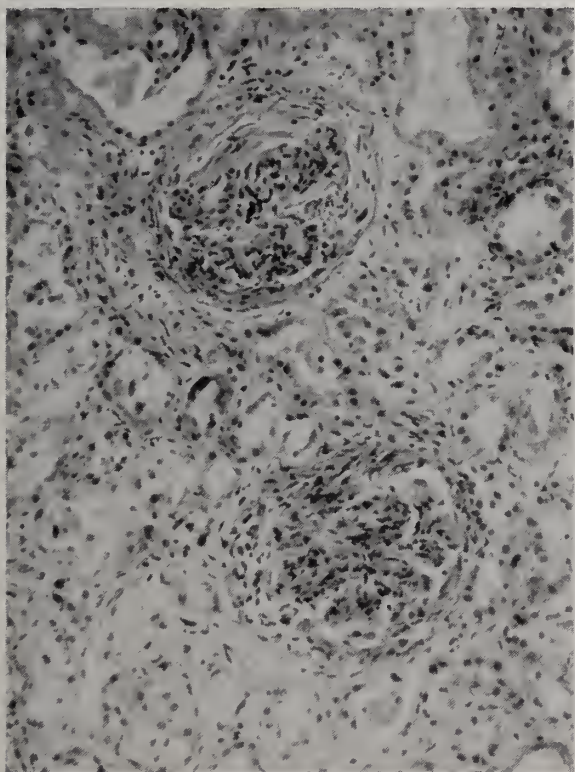


Fig. 3. Two glomeruli with epithelial proliferation, capsular adhesions and fibrosis typical of subacute glomerulonephritis. (H. & E. stain, 160 X.)

chyma. When we see pale, swollen kidneys with petechiae in patients who do not have a bleeding tendency the two diseases that we consider most strongly are malignant hypertension and subacute glomerulonephritis. Because we were told that this patient did not have extremely high blood pressure or the typical eyeground changes of malignant hypertension, we decided that she had subacute glomerulonephritis—and we were right.

In the microscopic sections of the kidneys there were typical proliferative changes of subacute glomerulonephritis in the glomeruli with epithelial crescents and adhesions between the glomerular tufts and Bowman's capsule (Fig. 3). In addition to the glomerular changes, however, many of the small renal arteries were affected (Fig. 4) in a way that we do not expect to see in ordinary glomerulonephritis. Many of these arteries had necrotic walls infiltrated by polymorphonuclear leukocytes. The changes were typical of the so-called microscopic form

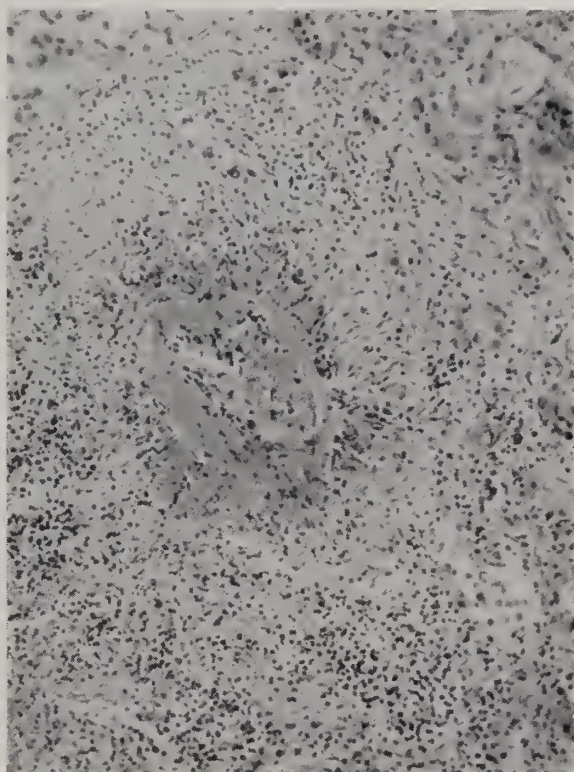


Fig. 4. Acute polyarteritis in the kidney. In this vessel there is fibrinoid necrosis of almost the entire wall and the adventitia and surrounding tissues are inflamed. (H. & E. stain, 160 X.)

of polyarteritis nodosa. This type of disease is different from the classical type of polyarteritis in which much larger branches of arteries, such as the renals and mesenterics, are segmentally affected, often with formation of aneurysmal bulges.

Having found evidence of arteritis in the kidneys, we search carefully for inflamed arteries elsewhere in the body. The search was largely unrewarding, but we finally



found a single small artery in the colon with a necrotic wall infiltrated by leukocytes (Fig. 5) and a few other less typically involved arteries in the ovary and elsewhere. Although polyarteritis is frequently charac-

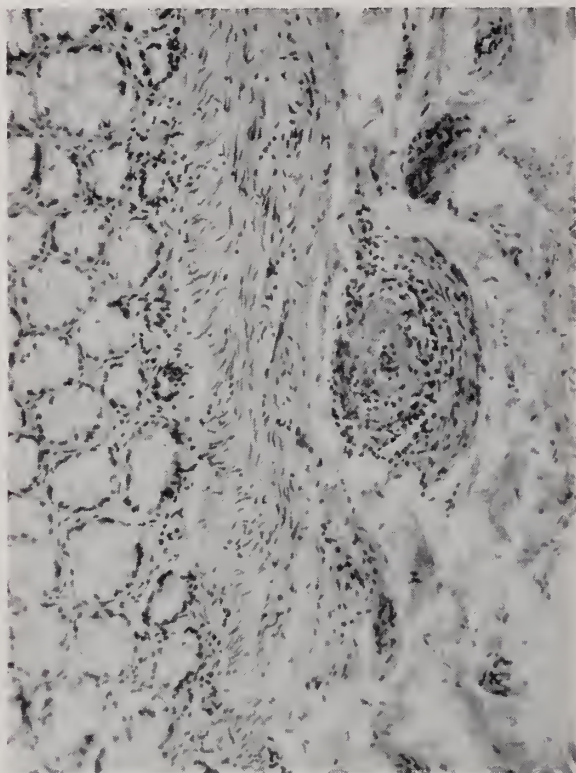


Fig. 5. Acute polyarteritis in the colon. An artery immediately beneath the muscularis mucosa is typically involved. Only a few other small visceral arteries in the abdomen were found to have similar changes. (H. & E. stain, 160 X.)

terized by episodes of abdominal pain, we hardly dare suggest that this patient's abdominal complaints were the result of such a slight arterial disease outside the kidneys. There were multiple acute ulcers of the stomach, but we could not find arteritis in that organ, and the symptoms of abdominal pain and tenderness are not otherwise explained. No abnormal masses were present in the abdomen. In relation to the terminal respiratory difficulties, we found acute bronchitis with severe mucous plugging of many bronchi.

One could catalog this case either as microscopic polyarteritis with predominant renal involvement or as subacute glomerulonephritis with acute arteritis. In either

case, it seems plain that involvement of both the glomerular tufts and of small arteries in various parts of the body can be part of the same disease process and presumably share the same etiology. Recently, Fordham, et al.,<sup>5</sup> reported three cases of microscopic polyarteritis in patients in which there was good evidence for a recent streptococcal infection in the form of rising ASO titers. In one case there was even a positive throat culture. We obviously do not know the etiology of the disease in the present case, but it is interesting to recall that the patient had cellulitis of the legs during the last admission and that cellulitis is most frequently caused by beta-hemolytic streptococci.

#### ANATOMICAL DIAGNOSES

1. *Polyarteritis nodosa, microscopic type, involving the kidneys, ovary and large bowel.*
2. *Subacute glomerulonephritis.*
3. *Varicose veins and chronic stasis dermatitis of the legs.*
4. *Subsiding cellulitis and deep venous thrombosis in the right leg.*
5. *Multiple acute ulcers in the stomach.*
6. *Acute bronchitis with mucous plugging of the bronchi.*

(U. Va. Autopsy 10937.)

#### Editors' note:

Acute glomerulonephritis in the elderly may not be so rare as is commonly supposed. Study of a series of seven cases in old people revealed that dyspnea and peripheral edema were the most common symptoms, that only three patients gave a history of sore throat, and red blood cell casts were found in the urine of only two. In the three patients tested, the antistreptolysin titers were elevated.<sup>6</sup>

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## Let's be specific about Campbell's Soups... and reducing diets

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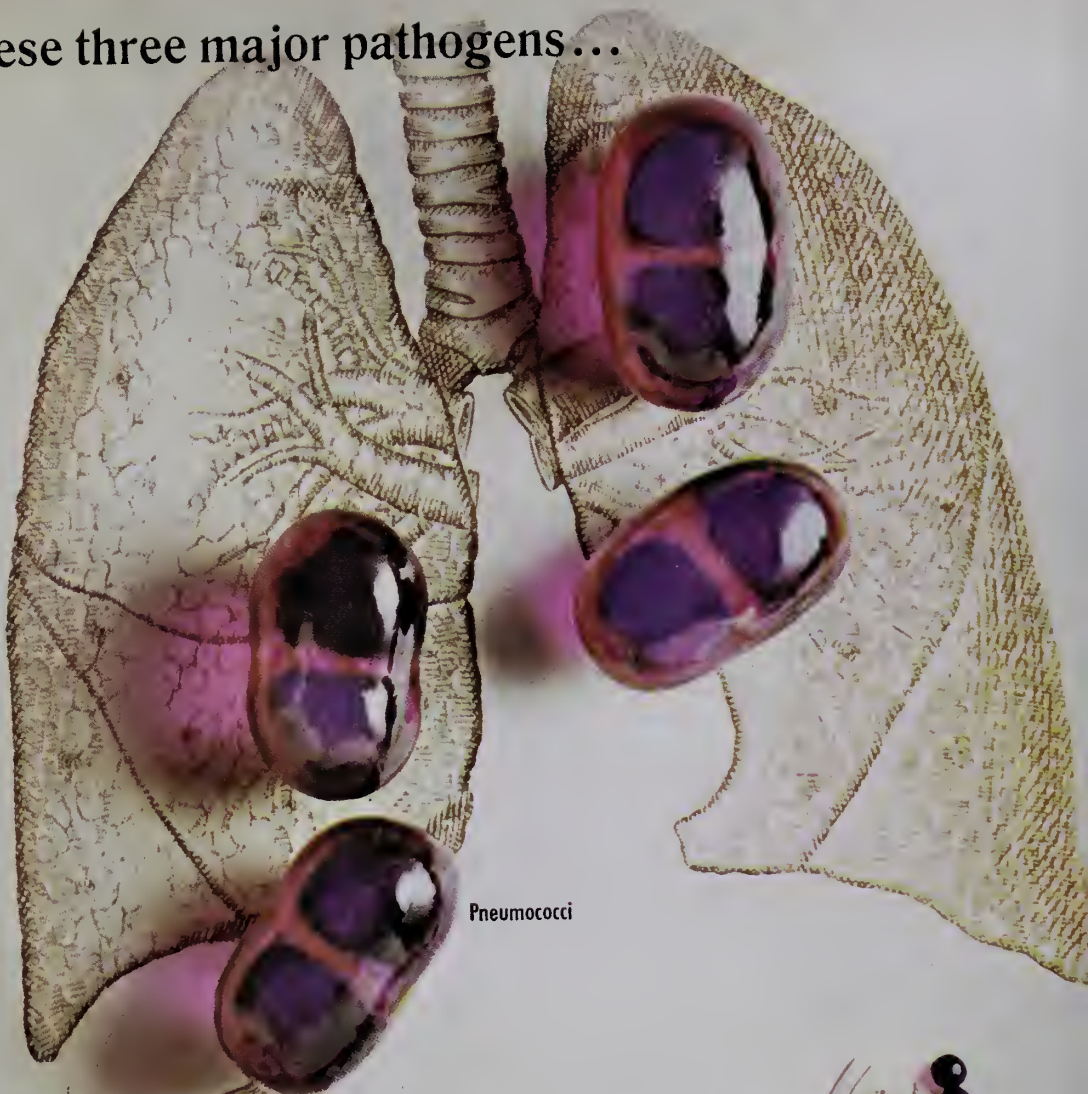
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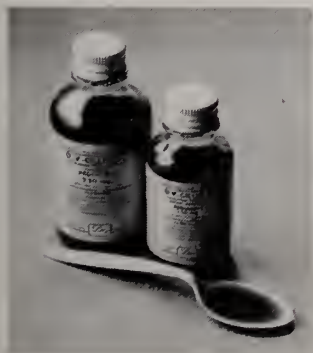
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**Indications:** V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

**Contraindication:** V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

**Warnings:** In rare instances, the use of penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type of reaction appears more frequently in patients with a history of sensitivity reactions to penicillin and in those with bronchial asthma or other allergies. Resuscitative drugs should be readily available for emergency administration. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for relief of immediate allergic manifestations and antihistamines and corticosteroids for delayed effects.

**Precautions:** V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy.

In prolonged therapy with penicillin, and particularly with high parenteral dosage schedules, frequent evaluation of the renal and hematopoietic systems is recommended.

In suspected staphylococcus infections, proper laboratory studies (including sensitivity tests) should be performed.

The use of penicillin may be associated with the overgrowth of penicillin-insensitive organisms. In such cases, its administration should be discontinued, and appropriate measures should be taken.

**Adverse Reactions:** Although serious allergic reactions are much less common with administration of oral penicillin than with intramuscular forms, manifestations of penicillin allergy may occur.

Penicillin is a substance of low toxicity, but it does possess a significant index of sensitization. The following hypersensitivity reaction associated with the use of penicillin have been reported: skin rashes ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; and reactions resembling serum sickness, including chills, fever, edema, arthralgia, and prostration. Severe and often fatal anaphylaxis has occurred (see Warnings). Hemolytic anemia, leukopenia, thrombocytopenia, and nephropathy are rarely observed side-effects and are usually associated with high parenteral dosage.

**Administration and Dosage:** For Tablets V-Cillin K and for V-Cillin K Pediatric, the usual dosage ranges from 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infant the daily dosage may be 50 mg. per Kg. of body weight divided into three doses.

Beta-hemolytic streptococcus infections without associated bacteremia may be treated with 200,000 to 400,000 units three times a day. Therapy should be continued for a minimum of ten days to prevent development of rheumatic fever and/or other serious complication. Dosage for routine streptococcus prophylaxis in patients with a history of rheumatic fever or congenital heart disease may be 200,000 units once or twice daily. When such patients undergo tonsillectomy, tooth extraction, or other minor surgery, the prophylactic dose should be 500,000 units every six hours given two days prior to surgery and for two days postoperatively. If oral medication is not feasible on the day of surgery, parenteral therapy should be considered. Mild to moderately severe pneumococcus pneumonia has been treated effectively with 250 mg. every six hours.

In staphylococcus infections, 400,000 units or more should be given every six to eight hours in conjunction with indicated surgical procedures.

For gonorrhea in males, 500 mg. (800,000 units) every four hours for three doses may be employed; in females, 500 mg. every four hours for six doses are recommended. Refractory infections generally respond to a second treatment three to four days following completion of the first. Treatment of gonorrhea with severe complications should be individualized, with prolonged and intensive treatment. Patients with suspected lesion of syphilis should have a dark-field examination before receiving penicillin and monthly serologic tests for a minimum of three months.

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## Motorcycle Accident Deaths Rising Rapidly

The popularity of motorcycles (including motorscooters and motorized bicycles) for local transportation, touring, and sports activities is soaring in city and suburbia and in all walks of life. It has been accompanied by a mounting toll of death from motorcycle accidents.

There were 1,534 such deaths in 1965 in the United States. This was over a third more than in 1964 and more than double the toll only four years earlier. It is estimated that about 200, or 13 percent of the fatalities in 1965 resulted from accidents involving motorscooters or motorized bicycles. If the trend, shown in the first chart, continues unabated, we may expect between 4,000 and 5,000 motorcycle fatalities annually by 1970.

Before the number of registered motorcycles began to rise in 1955, the vehicles most generally used were heavy and relatively expensive, weighing 500 pounds or more, with big frames and wide wheels. In the past few years a rapidly increasing percentage of the motorcycles on our roads have been the smaller, lighter, and less expensive types.

The United States Bureau of Public Roads reports a rise in the number of registered motorcycles from 412,000 in 1955 to 1,381,000 in 1965. An estimated half million vehicles were added during 1966 and it is expected that the annual increase will reach a million per year by 1970, with a total 5 million registrations that year.

Reflecting the strong appeal of motorcycles to the younger set, nearly three-fourths of the motorcycle accident victims in 1965 were under 30 years of age. About 10 percent of these were females. Collisions with another motor vehicle caused three-fifths of the accidental deaths, overturning or leaving the roadway was responsible for nearly a third, and most of the remainder occurred when motorcycles ran into fixed objects such as walls and abutments on the highway.

The motorcycle industry is aware of the additional traffic, training, and regulatory problems brought about by the motorcycle boom. The industry's trade group, the Motorcycle, Scooter and Allied Trades Association, together with the American Motorcycle Association, is taking an active part in safety efforts in cooperation with local, state, and federal agencies. Attention is now being directed particularly toward special driver tests and licenses for motorcycle operators and to more widespread use of protective headgear. The hazards of motorcycling are being brought to the attention of drivers of other vehicles, as well as to motorcyclists. While the motorcyclist must exhibit correct traffic behavior, the automobile, bus, or truck driver should be on the alert for the smaller vehicles and give them equal right-of-way. (*From the Statistical Bulletin of the Metropolitan Life Insurance Company.*)



# *Cancer Trends . . .*

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Edited by—

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## **Introduction**

This is the first in a series of articles on current trends in the field of cancer. Our purpose is to discuss problems of broad interest, commenting on their place in the management of the patient with malignant disease. Physicians with particular interests and experience will help by writing articles. The results of our effort will be determined by you, the reader. We encourage your comments!

WALTER LAWRENCE, JR., M.D.

J. SHELTON HORSLEY, III, M.D.

## **Radical Mastectomy for Breast Cancer**

J. SHELTON HORSLEY, III, M.D.

The perfect operation for any cancer requires absolute knowledge of the true extent of the malignancy. If this knowledge were available, simple mastectomy would be the ideal procedure for localized carcinoma confined to the breast, radical mastectomy for patients with involvement of adjoining axillary lymph nodes, and radical mastectomy with internal mammary node resection for those with involvement of this area as well as axillary node metastases from primary breast cancer. In the past few years a variety of different surgical procedures with and without adjuvant radiation therapy or chemotherapy have been advocated.

Radical mastectomy is the preferred treatment by most surgeons for localized breast cancer with or without clinical evi-

dence of lymph node metastases. Certain facts about this approach should be emphasized. First, cancer of the breast can be cured by surgical excision. Using radical mastectomy as the only treatment for operable cases, one may expect 10 year survivals of at least 50 percent when the axilla is free of cancer and 25 percent when axillary node metastases are present.

Another important fact to remember is that 30 to 40 percent of all breast cancers with clinically uninvolved axillary nodes treated by radical mastectomy have metastases found on subsequent pathological examination. Therefore simple mastectomy in these cases would leave metastatic disease in the axilla in one of three.

The word "radical", unfortunately, implies to many a long and dangerous dissection. This is obviously incorrect. Although some surgeons advocate a five to six hour procedure, the majority perform the operation in two to three hours. Mortality is minimal, from zero to 0.7 percent in large series of cases. The most troublesome sequela is swelling of the arm. Although edema is detectable in over 50 percent of cases following radical mastectomy, it is a serious problem in only 10 percent.

The psychic trauma to the patient who has her breast removed for cancer must be considered. Although the majority of patients make an easy adjustment, an explanation of the necessity for the extent of surgery along with understanding support, contributes greatly to the patient's completely satisfactory adjustment postoperatively.

In comparing results of various procedures, certain important principles must be considered. A precise method of classification of cases must be used so that comparative cases are of the same clinical stage. Results of therapy must be expressed in terms of ten-year survivals. The customary

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From the Department of Surgery, University of Virginia Medical Center, Charlottesville.

Sponsored by the Professional Education Committee, Virginia Division, American Cancer Society.



five-year analysis is too early in breast cancer because significant numbers of recurrences appear from the fifth to the tenth year after treatment. After ten years, recurrences are infrequent. Comparisons should first be made between the end results of single basic methods of treatment. Complex combinations utilizing several modalities such as x-ray and surgery should be separately categorized. An adequate number of cases in each stage, usually a minimum of 100 patients, is necessary.

Unquestionably, carefully controlled clin-

ical trials are urgently needed before selection of the ideal surgical procedure can be assured. Meanwhile, the dilemma becomes more profound when dealing with the individual who depends upon her surgeon to carry out treatment which will cure her breast cancer. I am confident that there is a place for each of the procedures advocated, depending upon the case. However, until we are able to more accurately determine the true extent of the malignancy and its biologic activity, radical mastectomy should continue to be the preferred therapy for operable breast cancer.

### Voluntary Application to State Hospital

The Code of Virginia permits the admission of persons as mentally ill, mentally deficient, or inebriate to any hospital, colony, or private institution, who voluntarily make written application therefor. (37-113 to 37-121.3)

Not included are those incompetent to make application, minors and unemancipated persons not capable of understanding if applications is made for them by others, and non-residents of the state. Additionally, those persons who apply for voluntary admission are subject to the rules and regulations established by the State Hospital Board; and provided such admission does not deprive any person who has been committed.

There are considerable advantages for the state hospital patient who is admitted voluntarily rather than by commitment. Civil rights and privileges are less impaired, social stigma is reduced, treatment is more effective, hospitalization is usually shortened, and financial obligations may be lowered due to the elimination of commitment fees. In spite of a liberal attitude towards voluntary admissions to Eastern State Hospital by the

Superintendent and the Medical Staff, the number of voluntary patients has always been very small.

Voluntary patients must come to the hospital without expense to the State. Persons applying for voluntary admission should be sober at the time they make application. Voluntary patients who have left the hospital against medical advice will not be re-accepted as voluntary patients a second time unless individual arrangements have been made with the Superintendent in advance. The statutes do not permit Eastern State Hospital to admit those persons who are mentally retarded.

Most persons subject to commitment will apply for voluntary admission if they are informed. If petitioners, judges, physicians, attorneys or friends would so inform such persons a considerable service would be rendered to the State and to patients. Because voluntary admissions are subject to the approval of the individual state hospital superintendents the above information is intended only for those residents of Region 3 which is served by Eastern State Hospital.

## *Diagnostic Laboratory Medicine . . .*

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### **Glucose in the Neonatal Period**

The normal ranges for blood glucose in adults are not achieved by newborns until about the second week of life. Before this time there is considerable variation in the behavior of blood sugar concentration within any group of apparently normal neonates. Fasting values that would be considered hypoglycemic in adults are not unusual in infants. Cornblath in 1961 found that 14% of full-term infants born of normal mothers had "hypoglycemic" levels, that is, true blood sugar levels of less than 30 mgm% sometime within the first 24 hours. None of these normal infants seemed the least bit affected by such low levels.

The mean figure arrived at in many series of apparently normal, full-term infants is in the neighborhood of 55-60 mgm% (true glucose levels); these values are 10-20 mgm% higher if total reducing substances are measured. During the first four hours of life the blood sugar drops an average of 12 mgm% and from then on for the next six days it gradually increases until it slightly exceeds the birth level.

Premature infants tend to have, on the average, 10-15 mgm% lower blood sugar levels than do full-term births. Baens et al. also found that the true glucose level of premature infants fell to its lowest level on the third and fourth days after birth. They also found that single hypoglycemic levels could not be correlated with clinical symptoms, but repeated ones often were.

Normal values for newborns vary more than those for adults because *in vitro* glycolysis is much more rapid in the newborn; hence delay in completing the test should be avoided. Also, concentration of saccharoid (non-glucose, non-fermentable re-

actants) materials are often quite high in neonatal samples. Enzymatic and Somogyi micromethods are available and all meaningful methods for infants require prior precipitation by zinc or barium.

Hypoglycemia is considered to be significant in newborns when the glucose level is less than 20 mgm% in the premature, less than 30 mgm% in the full-term infant during the first 48 hours and less than 40-50 mgm% thereafter.

In the newborn, hypoglycemic problems are more common than those of hyperglycemia. The hypoglycemias may be divided into the temporary and persistent types.

The temporary symptomatic hypoglycemia in newborn infants frequently, but not necessarily, follows toxemia of pregnancy. The usual common denominator is that these infants have a lower birth weight than expected for their gestational age. Some studies have suggested that the cause of hypoglycemia may be related to depleted glycogen stores at birth. The peak occurrence is between 24 and 48 hours. The symptoms at onset are usually tremors, episodes of cyanosis, convulsions, eye-rolling or apneic spells. The treatment consists of intravenous glucose, steroids and intramuscular glucagon depending on the severity and the response to treatment.

The persistent types of hypoglycemias are extremely rare. One of these is the idiopathic spontaneous type which is a very poorly understood disorder. Infants having such a problem are unable to maintain a normal blood glucose and the hypoglycemia may be continuous or episodic. Before this diagnosis can be made one must rule out the many other causes of hypoglycemia in newborns. These infants invariably have con-

vulsions which may be preceded by irritability, lethargy or even coma. Fasting blood glucose levels are almost always below normal. Upon oral ingestion of glucose a blood sugar curve is obtained with an immediate rise and a more rapid fall than usual. In addition, the three, four and five hour levels are below the fasting level. Epinephrine injection raises the blood sugar level thereby ruling out von Gierke's disease. A leucine tolerance test may be done, but caution should be taken not to produce a severe hypoglycemia. Treatment is usually the administration of ACTH, cortisone or glucagon.

A rare familial hypoglycemia may be brought about by the ingestion of certain amino acids, one of which is leucine. Milk is most often responsible because of its high content of casein which contains leucine. In some unexplained way leucine triggers an outpouring of insulin. Treatment consists of rigid exclusion of foods containing leucine.

Islet cell tumor of the pancreas is an extremely rare cause of hypoglycemia. The oral glucose tolerance curve may be quite helpful in the diagnosis. The fasting level is lower than normal, the peak of the curve is lower and hypoglycemia persists up to five and six hours after the glucose meal. At surgery this lesion may be quite difficult to identify and some advocate a subtotal pancreatectomy if no localized tumor is present.

Other causes of hypoglycemia which

must be considered are the inborn errors of metabolism such as glycogen storage disease and galactosemia. Adrenal insufficiency, liver disease, pituitary dysfunction, hypothyroidism, congenital absence of the alpha cells of the islets of Langerhans and central nervous system abnormalities may cause hypoglycemia.

Infants of diabetic mothers should be watched closely for symptoms of hypoglycemia which rarely may be very severe.

### Summary

A brief discussion of blood glucose levels in infants of the neonatal period is given. The various causes of hypoglycemia, its diagnosis, and its treatment are presented.

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H. F. HOKE, M.D.

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*Division of Clinical Pathology  
Medical College of Virginia  
Richmond, Virginia*



## *Mental Health . . . .*

### **Revised Listing of Mental Hygiene Clinics in Virginia**

Sidney Shankman, M.D., Director  
Alexandria Community Mental Health  
Center

720 N. St. Asaph Street  
Alexandria, Virginia 22314

John A. Knapp, M.D., Director  
Alleghany Mental Hygiene Clinic  
544 Church St.—P. O. Box 258  
Clifton Forge, Virginia 24422

Irving Schneider, M.D., Director  
Arlington Mental Health Center  
1800 N. Edison Street  
Arlington, Virginia 22207

James N. Williams, M.D., Director  
Atlantic Mental Hygiene Center  
2022 Atlantic Avenue  
Virginia Beach, Virginia 23451

Imran Hatiboglu, M.D., Director  
Bristol Mental Health Clinic  
Bristol Memorial Hospital  
Bristol, Va.-Tenn. 24201

Lawrence A. Bernert, Jr., M.D., Dir.  
Community Psychiatric Clinic  
334 Effingham Street  
Portsmouth, Virginia 23704

Jessie M. Enslin, M.D., Director  
Danville Clinic for Mental Hygiene  
116 South Ridge Street  
Danville, Virginia 24541

Ruth G. Reckrey, M.D., Director  
Educational Therapy Center  
2824 North Avenue  
Richmond, Virginia 23222

Simon Auster, M.D., Director  
Fairfax-Falls Church Mental Health Center  
2949 Sleepy Hollow Road  
Falls Church, Virginia 22044

Donald Lloyd Reed, M.D., Director  
Fredericksburg Area Mental Hygiene Clinic  
1206 Princess Anne Street  
Fredericksburg, Virginia 22401

William S. Allerton, M.D., Director  
Loudoun County Guidance Center  
18 N. King Street  
Leesburg, Virginia 22075

T. J. Lassen, M.D., Director  
Lower Peninsula Mental Hygiene Clinic  
95-30th Street  
Newport News, Virginia 23607

H. Marjorie Sloan, M.D., Director  
Lynchburg Guidance Center  
1010 Miller Park Square  
Lynchburg, Virginia 24501

Mr. Alton McCoy, Acting Director  
Massanutten Mental Health Center  
420 E. Market Street  
Harrisonburg, Virginia 22801

Patrick H. Drewry, Jr., M.D., Dir.  
M.C.V. Psychiatric Clinic—Box 253  
Medical College of Virginia  
Richmond, Virginia 23219

Joan Meiller, M.D., Director  
Memorial Guidance Clinic  
3001 Fifth Avenue  
Richmond, Virginia 23222

Jean M. Glasgow, M.D., Consultant  
Mountain Empire Guidance Center, Inc.  
710 Clement Street  
Radford, Virginia 24141

Dietrich W. Heyder, M.D., Director  
Mental Health Center of Norfolk and  
Chesapeake  
401 Colley Avenue  
Norfolk, Virginia 23507

Bruce M. Gray, M.D., Director  
Northwestern Psychiatric Clinic  
117 West Boscawen Street  
Winchester, Virginia 22601

H. Marjorie Sloan, M.D., Acting Director  
Patrick Henry Mental Hygiene Clinic  
15 Cleveland Avenue  
Martinsville, Virginia 24112

Tony A. Tsitos, M.D., Director  
Prince William County Community Mental  
Health Clinic  
223 Peabody Street  
Manassas, Virginia 22110

Eugene Makarowsky, M.D., Director  
Richmond Area Psychiatric Clinic  
101 South Fifth Street  
Richmond, Virginia 23219

Mrs. Louise King, Acting Director  
Roanoke Guidance Center  
1125 First Street, S. W.  
Roanoke, Virginia 24016

Bernard H. Kasinoff, M.D., Acting Director  
Rockbridge Mental Health Clinic  
300 White Street  
Lexington, Virginia 24450

Kurt Morbitzer, M.D., Director  
Southside Area Mental Hygiene Clinic  
12 E. Tabb Street  
Petersburg, Virginia 23803

Mr. Wilbur R. Reese, Acting Director  
Tidewater Mental Health Clinic  
427 Nicholson Street  
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20 N. Market Street  
Staunton, Virginia 24401

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Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

### Upswing in Marriages Continues

The United States and Canada both recorded increases in marriages during 1966, with the most pronounced rise occurring in the late months of the year. The upswing in both countries reflects the continuing increase in the numbers of persons reaching marriageable age.

In the United States marriages rose by 3.2 percent to about 1,859,000; there were 1,802,000 in 1965 and 1,725,000 in 1964. Their number in 1966 was the third largest on record, exceeded during 1946 and 1947. Last year's marriages correspond to a rate of 9.4 per 1,000 population, including the Armed Forces overseas.

Most areas of the United States reported more marriages in 1966 than in the year before. The largest increase, 14.4 percent, occurred in Massachusetts. In Washington, Arizona, and Utah the increases exceeded 10 percent. In three other states—Idaho, North Carolina, and Nevada—the relative rise was at least twice the national average.

Ranking just below these areas were Florida and Colorado, in each of which the uptrend has continued without interruption for more than a decade.

Contrary to the national pattern, 10 states registered decreases in marriages between 1965 and 1966. All of the declines were relatively small—under 5 percent in Hawaii, 4 percent in North Dakota, 3 percent in Rhode Island, and less than 2 percent in seven other states. Most noteworthy has been the experience in New Mexico, where marriages have remained depressed since 1957. The 12,138 marriages in New Mexico last year were less than three-fifths the number a decade ago.

In two of the three popular marriage centers in the United States—Las Vegas and Reno—marriages rose by about 5 percent in 1966. On the other hand, in Elkton (Maryland) they decreased by 8.4 percent.

(*Statistical Bulletin, Metropolitan Life Insurance Company*)

MACK I. SHANHOLTZ, M.D.

*State Health Commissioner of Virginia*

### **Immunization Program Under the Vaccination Assistance Act**

Past accomplishments in reducing the prevalence of diseases by immunization administered both in private medical practice and in public clinics are not to be minimized. Pediatricians have energetically advocated immunization of children for preventable childhood diseases. Other specialties have encouraged immunization for populations at high risk of various preventable infections such as tetanus and influenza. We are all familiar with the immunization policies adopted by the military, and of the value of various mass immunizations during times of disaster or during the threat of disease outbreaks.

Beginning April 1, 1967, a State-wide immunization program was undertaken by the Virginia State Department of Health. It is financed entirely by federal funds received under the Vaccination Assistance Act and administered by the United States Public Health Service. Currently forty-two states have similar programs. The purpose of this program is to inform the parents of all newborn children of the availability and importance of immunizations for infants in the first year of life, and to stress the need for maintaining a high level of immunization for all age groups. Contrary to most states, Virginia's program is not specifically oriented to measles immunization. It is designed as a long range continuing program stressing immunization against diphtheria, pertussis, tetanus, smallpox, polio, and measles. In June of this year, both live measles and live polio vaccines were made available for the first time to all physicians in the State. Physicians may obtain the vaccines at no charge through their local health de-

partments during the "life" of this federal program.

At present, personnel are being trained and then assigned to local health departments. These people are to assist local health directors in conducting mass immunization programs, to determine by surveys the immunization level within communities, and to conduct educational programs.

Currently the program is emphasizing the eradication of measles (rubeola) from the State of Virginia. Last year the American Medical Association gave support to the United States Public Health Service in its stand for the eradication of this disease. Tentatively the year 1967 has been set as the date for accomplishing this goal. During the past five years the number of cases reported for Virginia is as follows:

1962	1963	1964	1965	1966
9,675	8,747	13,568	4,524	2,271

Such an ideal goal is worth supporting; we have the tools and knowledge which, if applied properly, can eradicate measles. The chronology of the development of the live attenuated vaccine that has made this possible is as follows: 1954, Enders at Harvard made the first isolation of rubeola and the CF (complement-fixation) and HI (hemagglutination-inhibition) tests were developed; 1958-59, first human trials; 1960-62, extensive fields trials; 1963, licensure of vaccine.

Since March 1963, when the vaccine was first licensed, over twenty million doses have been distributed in the United States. The average number of doses distributed per month during 1966 was over 600,000.

An important aspect of the Virginia Im-





one step  
ahead

Times change and classic lobar pneumonia is rare. Your next pneumonia patient may have an atypical clinical picture and perhaps a pathogen in his sputum such as *H. influenzae* or *Mycoplasma pneumoniae* (Eaton Agent), which is believed to be responsible for one out of every five cases of pneumonia. That's why it makes sense to keep one step ahead—and prescribe the true broad-spectrum antimicrobial activity of DECLOMYCIN.

With DECLOMYCIN, you get effective action against both *H. influenzae* and *Mycoplasma pneumoniae*, plus prolonged high levels of antibiotic activity in the blood and the lung tissue. You're one step ahead with...

**DECLOMYCIN<sup>®</sup>**  
**DEMETHYLCHLORTETRACYCLINE**



Prescribing information on next page.

in the young  
acutely or chronically

## For common and unusual pneumonias

DECLOMYCIN Demethylchlortetracycline should be equally or more effective therapeutically than other tetracyclines when the offending organisms are tetracycline-sensitive.

**Contraindication:** History of hypersensitivity to demethylchlortetracycline.

**Warning**—In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated, and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort. Necessary subsequent courses of treatment with tetracyclines should be carefully observed.

**Precautions**—Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

**Side Effects**—Gastrointestinal system—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes. A rare case of exfoliative dermatitis has been reported. Photosensitivity; onycholysis and discoloration of the nails (rare). Kidney—rise in BUN, apparently dose related. Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. Teeth—dental staining (yellow-brown) in children of mothers given this drug during the latter half of pregnancy, and in children given the drug during the neonatal period, infancy and early childhood. Enamel hypoplasia has been seen in a few children. If adverse reaction or idiosyncrasy occurs discontinue medication and institute appropriate therapy.

**Average Adult Daily Dosage:** 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products. Treatment of streptococcal infections should continue for 10 days, even though symptoms have subsided.

**Capsules:** 150 mg; **Tablets:** film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.

# DECLOMYCIN<sup>®</sup>

## DEMETHYLCHLORTETRACYCLINE

LEDERLE LABORATORIES, A Division of  
American Cyanamid Company, Pearl River, New York



munization Project is the implementation, through central data processing, of a birth certificate follow-up program. It will function as follows: when a child is three months old, a pre-addressed return post card will be mailed to the parents accompanied by health education literature, asking that they mail the card back to the project office indicating whether the child has begun or is scheduled to begin immunizations. The accompanying literature will be designed to encourage the parents to obtain the immunizations from their private physician. Thirty days later, if no reply has been received, a second mailing will be justified. Thirty days from that date, if no response has been received from this case, a telephone call or home visit will be made by the project consultant or a member of the local health department. To insure an effective birth certificate follow-up program, all new

births must be followed to a final disposition.

The same process will be repeated when a child is approximately fourteen months of age and information gathered from the returned post card will be key-punched for processing on the IBM equipment. When the child has completed an entire basic series of immunizations, a permanent plastic immunization record card will be issued in his name. When booster doses are needed, according to the recommended immunization schedule, it will be possible to again notify the parent that it is time for the immunizations. These procedures should insure the maintenance of a high immunization level.

The final measure of a program's success can oftentimes be correlated to the degree of public response. The Virginia State Department of Health hopes an informed public will prove to be a responsive one.

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MONTHLY REPORT OF BUREAU OF COMMUNICABLE  
DISEASE CONTROL

	Aug. 1967	Aug. 1966	Jan.- Aug. 1967	Jan.- Aug. 1966
Brucellosis .....	2	2	31	13
Diphtheria .....	0	0	0	0
Hepatitis .....	56	33	543	386
Meningitis (Aseptic) .....	3	8	11	12
Meningococcal Infections ....	3	4	36	57
Poliomyelitis .....	0	0	0	0
Rocky Mt. Spotted Fever.....	5	10	23	27
Rubella .....	12	7	637	898
Rubeola .....	58	55	2179	2124
Streptococcal Sore Throat --	617	493	10165	8973
(including Scarlet Fever)				
Tularemia .....	0	0	0	0
Typhoid Fever .....	0	0	3	7
Rabies (in animals) .....	12	12	170	202
Venereal Diseases				
Syphilis .....	123	175	1384	1298
Gonorrhea .....	909	818	6163	5368
Other .....	1	7	13	23



## Editorial . . . .

### The Pageant of Medical History (concluded)

#### (D) WHITHER AND WHEN

*Everything that looks to the future elevates human nature; for life is never so low or so little as when occupied only with the present.*—LELITIA ELIZABETH LONDON

TURNING NOW AWAY FROM THE PAST and present and toward the "crystal ball" of the future, and in response to an innate human longing to look beyond horizons, the question naturally comes to be posed: What will be the chief medical goals of tomorrow? Stated succinctly and as briefly as appears consistent with clarity, it seems within the bounds of a fairly generous consensus view that the following problems bid fair to receive major consideration: (1) More and more effective measures will be sought and found for the arrest and cure of malignant disease. (2) The prevention and treatment of accidental injuries—and particularly of automotive vehicles injuries—will receive increased attention. This is as much a matter for concern of the medical profession as is the prevention of crippling and death from poliomyelitis or any other cause, whether of a physical or disease nature. (3) The global extension of medical care is already in its ascendancy. The language of the Good Samaritan is a universal language. More goodwill can be engendered by a box of pills in the hands of the right kind of a doctor than by any number of hydrogen bombs. (4) The so-called population explosion and what should be done about it will continue to command considerable attention. The convictions of doctors—or lack thereof—upon this score are, and in all likelihood will remain, mixed. Despite civilization's "hell-for-leather" speed in practically every direction, an awareness that it still takes two decades to produce a soldier is one—and an important one of the caution lights that gives us pause. We have not passed nor, for the foreseeable future, are we about to pass the mark when it will not be considered highly desirable to have an abundant supply of foot soldiers readily available. An awareness too that a few score of the "what became of everybody" magnitude of intercontinental ballistic missiles strategically placed can, in a flash, decimate the world's population, gives us further and weighty pause. Call it fortuitous, call it destiny, call it the scheme of life, call it Providence, but history would certainly appear to attest that Nature—or a combination of factors dictated by Nature—has somehow governed the fundamentals essential to

the survival and advancement of mankind. (5) There will undoubtedly be more and greater strides into the field of organ transplantation and replacement. This is the area of surgery in which the greatest advances have been made since World War II. The ability of certain surgeons, especially trained in vascular surgery, to operate upon the heart itself and to replace extensive sections of large blood vessels—the aorta or sections of it constituting the more common operative sites—by grafting appropriate parts of blood vessels removed from human bodies after death and preserved by freezing, or by the utilization of synthetic grafts of a plastic nature—such as dacron—is as spectacular as any kind of surgical procedure ever undertaken. (6) There will be further advances in the control and treatment of infectious diseases. An alertness to the possibility that any or all of the apparently conquered or virtually conquered infectious diseases planning attack in their slow retreat and returning with a vengeance should never, by any means, be abandoned. (7) Medical research will, of course, go forward on numerous fronts, but the most exciting of all will be that which will deal with the development of environmental, atomic and interspace medicine. How fast and how far man will go into space and survive poses a question it will devolve upon the profession of medicine as much as (if not more than) upon any other profession to answer. The manner and measure in which the medical experts have kept abreast of their responsibility in this new and highly specialized realm has been most admirable. Alertness of medical minds in taking cognizance of and in insisting upon the importance of guarding against the dire potentialities of the transmission of germs in interplanetary travel has also been interesting and impressive. (8) The medical profession will be looked to and accordingly will concern itself more and more with the matter of air and water pollution of our own planet, earth. Collaboration of medical and engineering experts will be essential to a solution and correction of these health detriments and hazards. (9) Serious attention should, and will in the future, be paid to eugenics as it pertains to mankind. In the light of all that has transpired, calculated to ruin rather than to improve the human race, it is amazing that evidence of regressive evolution has not long ago become markedly manifest. There must indeed be a “destiny that shapes our ends, rough hew them how we will.” In any event, history indicates nothing more clearly than that civilizations come and go. It proclaims further that it, (history) as has been observed by someone, never repeats itself exactly because each generation must live its own life in its own time and in its own environment and people are what they are partly because their ancestors were what they were and partly because their times and environment are not the same as were those of their ancestors.

The measure of the universe is man in the same sense that the measure of the world is man. If future generations are going to master the ability to travel from planet to planet, a new, improved or at least a special

breed of people will have to be created. A closer adherence to the principles of eugenics should contribute significantly to the realization of this end. People with more and more "bird" blood in them are going to be needed.

It has been estimated that it took fifty million years, i.e., five hundred thousand centuries for the processes of evolution to make a man out of a monkey. Conversely, it has been observed that a woman can reverse the process in 10 minutes.

(10) An increased amount of research will be devoted to deteriorative conditions commonly, though by no mean exclusively, associated with the process of aging which, in fact, may be properly considered a disease process. According to the 27th verse of the 5th chapter of Genesis: "All the days of Methuselah were nine hundred and sixty and nine years, and he died." Two thoughts are prompted by this Biblical passage. (1) If dying was the only or most noteworthy distinction of this man who is alleged to have lived so long, he might just as well—or better—not have lived at all. (2) Much research and a phenomenal extension of man's durability will be necessary before Methuselah's span of life is approached. Retardation of the deteriorative changes generally regarded simply as characteristics of growing old may be justified on other than purely sentimental grounds. Many people remain energetic, imaginative and creative long after they have reached the Biblically conventional three score and ten years or even four score milestones. Witness Konrad Adenauer, Charles de Gaulle and Aleksandr Feodorovich Kerenski. Bounarrot Michelangelo remained active in architecture, painting and poetry up to the time of his death at 89. Goethe completed *Faust* at the age of 82 and George Bernard Shaw who, in 1956, died at the age of 94, had written more than half of his voluminous contribution to literature after he had passed the age at which Shakespeare died. The important consideration however, it must be realized, is not so much one of living longer but of living more.

(11) Further research undoubtedly will be done relative to the prediction and control of the sex of offspring. It may be just as well if the doctors will leave this matter under the control of the power it had been under all along, that bees and possibly other insects can control and produce their kind in the sex desired, notwithstanding.

(12) It would appear reasonable to expect a more general acceptance and use of progestin-estrogen preparations (contraceptive pills) in the United States and worldwide. As something of an addendum to item 4, of this editorial, may it be stated here that the "pill" and other contraceptive devices well may not only contribute to quelling the population explosion alarm, but may cause a swing of the pendulum in a reversed direction to so marked a degree as to cause a comparable alarm over a progressively decreasing birth rate, which already in recent years—particularly during the past year, in the United States—has, with serious concern, been noted.



Predictably too, the trend toward legalized abortion throughout the world will in the course of time become more liberal. Any possibility of a race suicide is in the estimate of this commentator however, utterly unconscionable. Genuine hope and reassurance should reside in the realization that the biological urge—the urge toward self-perpetuation remains, as it has been from the beginning, virtually on a par with self-preservation as a most powerful and irrepressible attribute of human nature—and indeed, throughout every form of life, regardless of its environment, and whether fauna or flora. The normal desire and fundamental compulsion on the part of living beings in general has always been, is, and will always be to produce offspring, and this urge is no less natural and uncompromising in the human race than in the cat or other dumb animal order.

In any event, the profession of medicine from Imhotep at the dawn of its history to the present day has edged closer and closer to an attainment of perfection. Some of the medicaments used in Egypt, Mesopotamia and India during medicine's prescientific era many centuries—in fact, several thousand years—B. C. are still being used today; some have been discarded only to be resurrected ages later, and many new items have been added and are continuing to be added at a bewildering rate. It does not seem beyond the realm of sound reasoning to contemplate that there is in Nature, waiting only to be discovered, a remedy (less awesome than that alleged to have been mentioned by Sir Walter Raleigh when with his thumb he touched the edge of the headman's axe) for every ill to which mankind or any living thing, for that matter, is subject. It is toward such a goal that much of the time, money and effort of medical research is aimed.

For the foreseeable future, at any rate, the chief medical need of the great majority of people of the world will be for the services of general practitioners. It has been reliably estimated that 85% of all the ills for which people seek medical assistance can be satisfactorily treated by the general practitioner to whom, as Doctor Osler found, the father still comes with his anxieties, the mother with her hidden griefs, the daughter with her trials and the son with his follies.

The pharmaceutical manufacturers will undoubtedly continue to pour forth an endless assortment of new medicines and the doctor, whether general practitioner or specialist, will continue to be confronted with the necessity of reading *Time Magazine* and other lay periodicals in which medical literature appears, and ad nauseam, seeing a rash of medical commercials on television, to the end that his patients won't, on the one hand, be better informed than he is and, on the other hand, much less well informed.

The physician perhaps will repeatedly hearken back to the Island of Cos where, four hundred years before Christ, Hippocrates observed that, "People prefer what is new, although they do not know whether it be

proper or not, rather than something to which they have been accustomed and know already to be proper. And what is strange they prefer to what is obvious." Thus will he again and again be reminded of the immutableness of human nature.

H. LAMONT PUGH, M.D.

## Cancer Trends

CANCER TRENDS makes its first appearance in this issue of the Virginia Medical Monthly. It is anticipated that an article dealing with some phase of cancer will appear on alternating months in this journal. Dr. Walter Lawrence, Jr., Professor of Surgery and Chairman of Division of Surgical Oncology of the Medical College of Virginia, and Dr. J. Shelton Horsley III, Assistant Professor of Surgery and Director of the Tumor Clinic of the School of Medicine of the University of Virginia, will prepare these articles. This series will be sponsored by the Professional Education Committee, Virginia Division, American Cancer Society.

With two such authoritative editors and with the resources of the two outstanding medical schools of Virginia for them to draw upon, we have every reason to anticipate that this will be a most worthwhile feature. The Publication Committee of the journal is pleased to welcome this new department.

H. J. W.

### Calendar of Events

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- 15TH ANNUAL SEMINAR—Sponsored by Bluefield Sanitarium, Bluefield, West Virginia, Stevens Clinic, Welch, West Virginia, and Clinch Valley Clinic, Richlands, Virginia—Seminar will feature speakers from Medical College of Virginia, Duke University Medical Center, Medical College of Georgia, and University of Indiana Medical Center—Bluefield Country Club—afternoon and evening of October 12, 1967.
- "ANXIETY AND DEPRESSION"—Post Graduate Seminar—Richmond Memorial Hospital—Richmond—October 12, 1967.
- "WILLIS ORATION"—Lecturer will be Dr. Douglas Clark, Glasgow, Scotland—Especially for Johnston-Willis Staff and members of the Richmond Academy of Medicine—Country Club of Virginia—Richmond—6:00 p.m., October 13, 1967.
- "THE EMERGENCY CARE AND TRANSPORTATION OF THE SERIOUSLY ILL AND INJURED"—Medical College of Virginia—Richmond—October 19-21, 1967.
- ANNUAL MEETING OF THE MEDICAL SOCIETY OF VIRGINIA—Marriott Twin Bridges Motor Hotel—Arlington—October 19-22, 1967.
- CONFERENCE ON AGING AND LONG TERM CARE—Sponsored by the American Medical Association—Emerson Hotel—Baltimore, Maryland—November 2-3, 1967.
- "PREVENTION AND MANAGEMENT OF COMPLICATIONS IN SURGICAL PATIENTS"—A Continuing Education Course arranged by University of Virginia School of Medicine—Charlottesville—November 3-4, 1967.
- MCGUIRE LECTURE SERIES ON GASTROENTEROLOGY—Lecturer will be Dr. Franz J. Ingelfinger—Medical College of Virginia—Richmond—November 9-10, 1967.
- NATIONAL CONFERENCE ON UTILIZATION REVIEW—Sponsored by American Medical Association—Shamrock-Hilton Hotel, Houston, Texas—November 25, 1967.
- 9TH NATIONAL CONFERENCE ON THE MEDICAL ASPECTS OF SPORTS—Hotel America—Houston, Texas—November 26, 1967.
- CLINICAL CONVENTION OF AMERICAN MEDICAL ASSOCIATION—Houston, Texas—November 26-29, 1967.
- NATIONAL CONFERENCE ON COMMUNITY AND EMERGENCY MEDICAL SERVICE—Sponsored by American Medical Association—San Francisco Hilton Hotel—San Francisco, California—January 18-20, 1968.
- MEDICAL SEMINAR—A Continuing Education Presentation of the University of Virginia School of Medicine—Hot Springs—February 1-3, 1968.
- STONEBURNER LECTURE SERIES ON NEPHROLOGY—Medical College of Virginia—Richmond—February 22-23, 1968.
- AMPAC NATIONAL WORKSHOP—Sheraton-Park Hotel—Washington, D. C.—March 9-10, 1968.



## **New Members.**

Members received into The Medical Society of Virginia during the month of August are:

Frederick Aroyce Berry, Jr., M.D.,  
Charlottesville  
Arthur Kaufman, M.D., Norfolk  
Arthur Joseph Martin, M.D.,  
Bowling Green

## **Dr. Robert S. Hutcheson, Jr.,**

Roanoke, has been elected president of the State Board of Health. He succeeds Dr. James L. Hamner, Mannboro, whose term on the board expired on July 1st.

## **Officers of Virginia Medical Service Association.**

Dr. Frank D. Daniel, Charlottesville, has been re-elected chairman of the Board of Directors of the Association.

Dr. T. Dewey Davis, Richmond, has been re-elected president, and Dr. Julian H. Yeatman, Fork Union, vice-president.

## **Dr. Harrison Picot,**

Alexandria, spent the month of September at the Zayeshgah (Maternity) Hospital in Kabul, Afghanistan, as a volunteer specialist with MEDICO, a service of CARE.

## **Dr. Charles L. Crockett, Jr.,**

Assistant Dean for continuing education at the University of Virginia School of Medicine, has returned to Roanoke to develop an expanding continuing medical education program for Southwest Virginia. He will also direct the internal medical education program of Roanoke Memorial Hospital.

Dr. Crockett will spend part of his time representing the medical school on continuing education programs and regional medical program planning and organization in

Roanoke. He will work with the Roanoke Academy of Medicine, area hospital staffs, voluntary health agencies, public health departments and other groups. The remainder of his time will be devoted to his new position at Roanoke Memorial. Dr. Crockett will also spend part of the year at the University working and teaching.

## **Joins St. Albans Staff.**

Dr. Samuel Sprague has joined the staff of St. Albans Psychiatric Hospital, Radford. He recently served on the professional training staff at St. Elizabeth's Hospital, Washington, D. C.

## **Virginia Association of Medical Assistants.**

The Officers and Board of Directors of the Virginia Association of Medical Assistants had their third quarterly meeting at the Cavalier Hotel, Virginia Beach, August 19. This meeting was presided over by the capable President, Mrs. Charlotte Davis. Those present, in addition to the Officers and Board, were Dr. Thiemeier and Dr. Eagles, Advisors of the Virginia Association of Medical Assistants.

Due to the resignation of the President-Elect, Mrs. Gene Garrett, the Nominating Committee was unable to come up with a complete slate of officers. This resulted in considerable discussion but I believe a complete slate will be presented at the next Board Meeting which precedes the annual State Meeting to be held at the America House, Petersburg, November 10-12.

There was considerable discussion regarding the annual meeting of the American Association of Medical Assistants which will be held at the International Hotel, Los Angeles, October 10-17. Mrs. Doris Jennings and Mrs. Lonie Kanak are the Delegates.

I again wish to stress the importance of the VAMA and the AAMA to its members, the ladies who work in doctors' offices, who

# Night Leg Cramps . . . Unwelcome Bedfellow In Diabetes<sup>1</sup>, Arthritis<sup>2</sup>, and Peripheral Vascular Disorders<sup>2</sup>

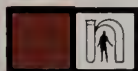


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# When the agitated geriatric disrupts the home...

His teen-age  
granddaughter  
won't invite  
friends  
home  
because  
of his  
outbursts.



for moderate to severe anxiety

**Mellaril<sup>®</sup>**  
(thioridazine)  
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and habits create  
more tension.**

**His disturbances at  
the table make every  
meal a nightmare.**



**His daughter  
can't please him.  
There is "just no  
living with him."**

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Anxiety that seriously interferes with the individual's performance at work, at home, or in the community may be regarded as moderate to severe in degree.

Mellaril often recommends itself to the treatment of moderate to severe anxiety because it

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Thus, when you consider the anxiety moderate to severe... consider Mellaril.

**Contraindications:** Severely depressed or comatose states from any cause, and in association with or following MAO inhibitors; severe hypertensive or hypotensive heart disease.

**Precautions:** Hypersensitivity reactions (e.g., leukopenia, agranulocytosis) and convulsive seizures are infrequent. Pigmentary retinopathy has been observed where doses in excess of those recommended were used for long periods of time. May potentiate central nervous system depressants, atropine, and phosphorus insecticides. Where complete mental alertness is required, administer the drug cautiously and increase dosage gradually. In addition, orthostatic hypotension (especially in female patients) has been observed. Epinephrine should be avoided in treatment of drug-induced hypotension.

**Side Effects:** Pseudoparkinsonism and other extrapyramidal disorders are infrequent; drowsiness, especially in high doses early in treatment, may occur; nocturnal confusion, dryness of the mouth, nasal stuffiness, headache, peripheral edema, lactation, galactorrhea, and inhibition of ejaculation are noted on occasion; photosensitivity and other allergic skin reactions may occur but are extremely rare.

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for moderate to severe anxiety

**Mellaril®**  
(thioridazine)  
25 mg. t.i.d.



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*The  
fast-disintegrating  
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gives relief in  
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*Each tablet contains:*

Potassium Iodide.....195 mg.  
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**Precautions:** Usual for aminophylline-ephedrine-phenobarbital. Iodides may cause nausea, long use may cause goiter. Discontinue if symptoms of iodism develop.

**Iodide contraindications:** tuberculosis, pregnancy.

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are not already members, as well as the benefits to those doctors whose office personnel are members, and urge that all doctors insist upon their personnel joining the local, state, and national organization.

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JOHN WYATT DAVIS, JR., M.D.  
*Advisor, AAMA*

### **Psychiatric Residences for G.P.'s.**

NIMH residency training in approved three year program. Stipend \$11,500 to \$12,000. Applicants must have completed four years or more of practice in field of medicine other than psychiatry after an approved internship. Applicants should not be over 45. Address inquiries to Chairman, Department of Psychiatry, Medical College of Virginia, Richmond, Virginia 23219. Include curriculum vitae and recent photograph. (*Adv.*)

### **Associates Wanted.**

Generalist, internist, or surgeon. Richmond, Virginia, suburb; office general practice but limited to specialty in hospital; salary negotiable, partnership if compatible or expense sharing arrangement. Also need semi-retired physician. Send complete bi-

ography to #80, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

### **Virginia Otolaryngology Practice.**

Exceptional opportunity; practice of recently deceased specialist, Portsmouth, Virginia. Grossing \$80,000 in second year; metropolitan area; good hospitals; large potential; new fully equipped suite suitable for two doctors; excellent staff of two. Write Mr. Karl Schwartz III, Vice President and Trust Officers, Virginia National Bank, Trust Department, P. O. Box 3000, Norfolk, Virginia, or call 703-622-73511. (*Adv.*)

### **Wanted.**

Emergency Room physicians licensed in Virginia. Two needed to provide 12 hour coverage daily; 389 bed J.C.A.H. Hospital; approximately 17,200 visits annually; fee for service with \$18,000 guarantee. Apply in detail to Administration, Winchester Memorial Hospital, Winchester, Virginia. (*Adv.*)

### **Emergency Room Physician Wanted.**

Mary Washington Hospital, Fredericksburg, Virginia, plans to begin a medical staff approved, full time emergency room physician program January 1, 1968. Fee for service basis with guaranteed minimum income. Estimate 14,000 to 15,000 E.R. patients in 1968. Interested physicians please contact Harry Bach, Administrator. Phone 373-4110. (*Adv.*)



## Obituaries . . . .

### **Dr. Monsey Edgar Mease,**

Sandy Level, died August 13, having been in ill health for some years. He was eighty-six years of age and a graduate of the Medical College of Virginia in 1905. Dr. Mease returned to his native county of Pittsylvania shortly after his graduation and practiced there until his retirement in 1956. He started out making his rounds on horseback, later switched to horse and buggy and, at one time, even went about on a motorcycle. Dr. Mease was a member of Anderson Masonic Lodge, the Danville Scottish Rite Bodies and Acca Temple Shrine in Richmond. He had been a member of The Medical Society of Virginia for twenty-four years.

A son and a sister survive him.

### **Dr. Wylie Charles Mason,**

Barboursville, died August 10, at the age

of seventy-six. He received his medical degree from the New York University College of Medicine in 1917. Dr. Mason was founder of the Gordonsville Community Hospital and operated it with the late Dr. H. C. McCoy until 1947. He had been in general practice in Barboursville since 1951. He had been a member of The Medical Society of Virginia for thirty-five years.

His wife, five daughters, a son and a stepson survive him.

### **Dr. Alexander Stuart Richardson,**

Grundy, died August 31 of injuries received in an automobile accident. He was ninety-five years of age and a graduate of the former University College of Medicine, Richmond, in 1900. Dr. Richardson had been a member of The Medical Society of Virginia for thirty-three years and was a Fifty Year Member.

# There are 45,600\* undetected diabetics in Virginia

Most of these are probably among patients over 40; the overweight; relatives of diabetics, and mothers of large babies. By the time polyphagia, polyuria, polydipsia, pruritus or other overt symptoms of diabetes appear, damage may have been done that could have been minimized. DEXTROSTIX® gives you a reliable blood-glucose estimate in 60 seconds.

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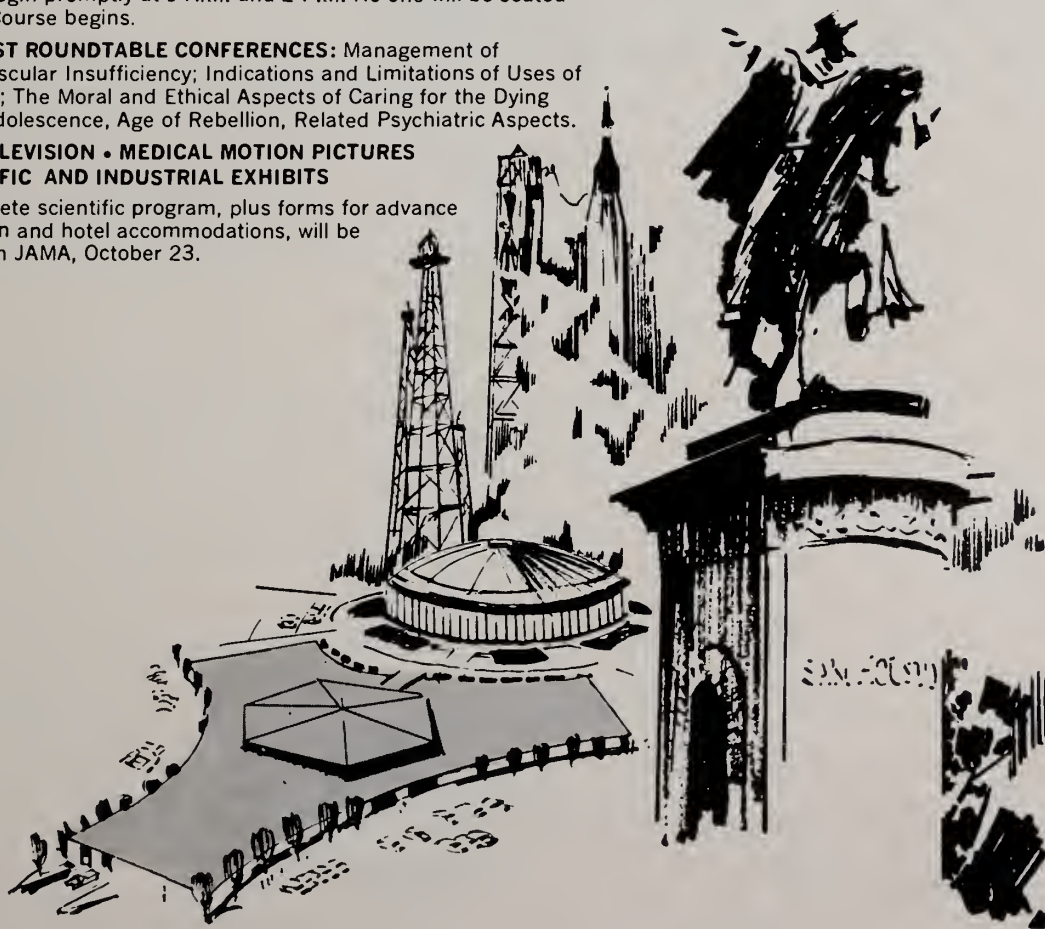
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**BREAKFAST ROUNDTABLE CONFERENCES:** Management of Cerebrovascular Insufficiency; Indications and Limitations of Uses of Antibiotics; The Moral and Ethical Aspects of Caring for the Dying Patient; Adolescence, Age of Rebellion, Related Psychiatric Aspects.

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...and then there's the one about cucumbers curing headaches.

### ***Cucumbers cure headaches?***



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BY PEOPLES DRUG  
STORES. TO KEEP THE  
PUBLIC BETTER INFORMED  
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Some people say placing cucumber peel on your forehead really works. Like cucumber peelings, there are dozens of other 'home-fashioned' remedies used for headache relief, but most people prefer a more scientific remedy. Many still believe headache discomfort is an unexplained fact of life to be endured, too. However, medical science tells us that a headache may be the result of many complex and obscure physical conditions. One theory classifies more than 200 separate causes for

a headache. Occasional headaches usually can be related directly to a specific event or experience. But recurrent headaches, or very severe attacks, could mean that a physician should be consulted. Expert diagnosis and detection of the actual cause could bring lasting relief.

So if frequent headaches disturb your well-being, Peoples suggest you see your doctor. If he should prescribe something for you, remember that Peoples Drug Stores will always serve you efficiently, courteously and professionally.

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Headache remedies don't grow in gardens but it seems that people can have some very unlikely and old-fashioned ideas. No doubt you, Doctor, have encountered such equally surprising beliefs from time to time. Not too often, we hope. Folk-medicine makes interesting reading but not very effective treatment. That's why we are always happy to do our part, whenever possible, to encourage people to seek professional medical advice when they have physical disorders. As always, Peoples Drug Stores are here to serve you and your patients. Please call on us at any time, Doctor.



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**Tuinal helps wakeful patients fall asleep fast, stay asleep all night.**

**Indications:** Tuinal is indicated for prompt and moderately long-acting hypnosis. It is not suitable for continuous daytime sedation.

**Contraindications:** Barbiturates should not be administered to anyone with a history of porphyria, nor should they be given in the presence of uncontrolled pain, because excitement may result.

**Warning:** May be habit-forming.

**Precautions:** Tuinal should be used cautiously in patients with decreased liver function, since prolongation of effect may occur.

**Adverse Reactions:** Idiosyncrasy, such as excitement, hangover, or pain, may appear. Hypersensitivity reac-

tions occur in some patients, especially in those with asthma, urticaria, or angioneurotic edema.

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# Consider starting your hypertensives on this basic thiazide



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Enduron is a true 24-hour single-dose thiazide. Its sodium excretion is not squeezed into an abrupt peak during the first several hours. It is well-sustained in a plateau-like effect—with little reduction for the first 12 hours, and decline thereafter only gradual.





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Use Enduron as an ideal starting therapy in mild hypertension. Use it too, as a basic therapeutic building block with which other agents can be joined, for managing your more resistant hypertensives.

*Once a day, every day*

**ENDURON<sup>®</sup>**  
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	Minimum	Usual	Intermediate	Maximum
DAILY DOSAGE RANGE	 2.5 mg. tablet	 5 mg. tablet	 7.5 mg.	 10 mg.

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# To build added response, shift to Enduronyl



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The rauwolfia component of Enduronyl is deserpidine (Harmony<sup>®</sup>), a purified crystalline alkaloid supplied only by Abbott. It augments Enduron with its own antihypertensive and tranquilizing action.

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Choose Enduronyl for your patients in the broad range of mild to moderate hypertension. Patient acceptance is excellent!

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### ENDURONYL<sup>®</sup>

METHYLOTHIAZIDE 5 MG. WITH DESERPIDINE 0.25 MG.

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	Minimum	Usual	Intermediate	Maximum
DAILY DOSAGE RANGE	 2.5 mg. methyclothiazide 0.125 mg. deserpidine	 5 mg. methyclothiazide 0.25 mg. deserpidine	 7.5 mg. methyclothiazide 0.375 mg. deserpidine	 10 mg. methyclothiazide 0.5 mg. deserpidine
DAILY DOSAGE RANGE	 2.5 mg. methyclothiazide 0.25 mg. deserpidine	 5 mg. methyclothiazide 0.5 mg. deserpidine	 7.5 mg. methyclothiazide 0.75 mg. deserpidine	 10 mg. methyclothiazide 1 mg. deserpidine

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# Eutonyl affords a different kind of basic therapy for moderate to severe cases



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Eutonyl is a unique nonhydrazine agent. It is reported to act by reducing peripheral vascular resistance.<sup>1,2</sup>

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Most important: There is no central depressant action. In fact, some patients reported an *increased* sense of well being.

Here, then, is a highly effective *basic treatment* for moderate to severe cases—and one that will not hamper your patient with lethargy or drowsiness while on treatment.

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**EUTONYL®**  
PARGYLINE HYDROCHLORIDE



	Minimum	Usual starting	Intermediate	Maximum
DAILY DOSAGE RANGE	 10 mg. tablet	 25 mg. tablet	 50 mg. tablet or as needed	 200 mg.

1. Brest, A. N., et al., Cardiac and Renal Hemodynamic Response to Pargyline, Ann. N. Y. Acad. Sci., 107-1016, 1963.  
2. Winsor, T., Pargyline Hydrochloride, Hypertension, Urinary Tryptamine, and Vascular Reflexes, Geriatrics, 19:598, Aug., 1964.

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# Eutron adds thiazide for enhanced therapy with milder side effects



**Only a 7/4 mm. span between standing and recumbent pressures in clinical trials—reduced chance of orthostatic hypotension**

The combining of Eutonyl and Enduron in Eutron permits a significantly greater antihypertensive effect than with either agent used alone. This in turn may allow therapeutic success with lesser dosage—and correspondingly milder side effects.





A significant finding in clinical trials was the drug's action in lowering blood pressure to *nearly equal levels in all body positions*. Total average spread between standing and recumbent readings (after treatment) was only 7/4 mm. Hg.

Thus, in your moderate to severe cases, Eutron affords a usually smooth course of therapy, often with reduced likelihood of orthostatic effects. (The usual precautions against rising suddenly, of course, will always apply.) And, because of the thiazide component, Eutron may be used in the presence of congestive heart failure.

Once a day, every day

**EUTRON™**  
PARGYLINE HYDROCHLORIDE 25 MG.  
WITH METHYLOTHIAZIDE 5 MG.



	Minimum	Usual starting	Intermediate	Maximum
DAILY DOSAGE RANGE	 12.5 mg. pargyline hydrochloride and 2.5 mg. methyclothiazide	 25 mg. pargyline hydrochloride and 5 mg. methyclothiazide	 37.5 mg. pargyline hydrochloride and 7.5 mg. methyclothiazide	 50 mg. pargyline hydrochloride and 10 mg. methyclothiazide

See Brief Summary on final page of advertisement.

## ENDURON<sup>®</sup> | ENDURONYL<sup>®</sup>

METHYLCLOTHIAZIDE

Each tablet contains  
Methyclothiazide 5 mg. with  
Deserpidine 0.25 mg. or 0.5 mg.

**Indications:** Enduron is used to control edema and mild to moderate hypertension; also used with other drugs for hypertension. Enduronyl is used in mild to moderately severe hypertension; when used with Enduronyl, more potent agents can be given at reduced dosage to minimize undesirable side effects.

**Contraindications:** Neither Enduron nor Enduronyl should be used in severe renal disease (except nephrosis) or shutdown; in severe hepatic disease or impending hepatic coma; in patients sensitive to thiazides. Hepatic coma has been reported as a result of hypokalemia in patients receiving thiazides.

Enduronyl is contraindicated in patients with severe mental depression and suicidal tendencies, active peptic ulcer, or ulcerative colitis.

**Warnings:** Consider possible sensitivity reactions in patients with a history of allergy or asthma. If added potassium intake is indicated, dietary supplementation is recommended. Enteric-coated potassium tablets should be reserved for cautious use only when adequate dietary supplementation is not practical because those tablets may induce serious or fatal small bowel lesions consisting of stenosis with or without ulceration. These small bowel lesions have caused obstruction, hemorrhage and perforation frequently requiring surgery. Medication should be discontinued immediately if abdominal pain, distension, nausea, vomiting or GI bleeding occurs.

**Precautions:** Use thiazides with caution in severe renal dysfunction, impaired hepatic function, or progressive liver disease. In surgical patients, thiazides may reduce the response to vasopressors and increase the response to tubocurarine. Use thiazides with caution in pregnancy (bone marrow depression, thrombocytopenia, or altered carbohydrate metabolism have been reported in certain newborn infants). Also reported have been: blood dyscrasias including thrombocytopenia with purpura, agranulocytosis and aplastic anemia; elevations of BUN, serum uric acid, or blood sugar. Symptomatic gout may be induced. Antihypertensive response may be enhanced following sympathectomy.

Use Enduronyl with caution in patients with a history of peptic ulcer, as rauwolfias may increase gastric secretion. Discontinue at the first sign of mental depression. Rauwolfia alkaloids may increase hypotensive effects of surgery or anesthesia, and should be discontinued two weeks prior. They also lower the convulsive threshold and shorten seizure latency. In epilepsy, dosage adjustment of anticonvulsant medication may be necessary. Alcohol, barbiturates, or narcotics may potentiate action of deserpidine.

**Adverse Reactions:** During intensive or prolonged therapy, guard against hypochloremic alkalosis and hypokalemia (especially the latter if patient is on digitalis). All patients should be observed for signs of hyponatremia ("low-salt" syndrome). Reported thiazide reactions include: anorexia, nausea, vomiting, diarrhea, headache, skin rash, dizziness, paresthesia, weakness, photosensitivity, jaundice, and pancreatitis.

Reported rauwolfia reactions include: nasal stuffiness, nausea, weight gain, diarrhea, aggravation of peptic ulcer, epistaxis, skin eruption, and reduction of libido and potency. Excessive drowsiness, fatigue, weakness, and nightmares may signal early signs of mental depression.

## EUTONYL<sup>®</sup> | EUTRON<sup>™</sup>

PARGYLINE HYDROCHLORIDE

Each tablet contains  
Pargyline Hydrochloride 25 mg.  
with Methyclothiazide 5 mg.

**Indications:** For treatment of patients with moderate to severe hypertension, especially those with severe diastolic hypertension. Not recommended for patients with mild or labile hypertension amenable to therapy with sedatives and/or thiazide diuretics alone. It is desirable to establish the dosage of Eutron by administering component drugs separately.

**Contraindications:** Pheochromocytoma, advanced renal disease, increasing renal dysfunction, paranoid schizophrenia and hyperthyroidism. Hepatic coma has been reported as consequence of hypokalemia with thiazide therapy. Until further experience is gained not recommended for patients with malignant hypertension, children under 12, or pregnant patients.

Concomitant use of the following is contraindicated: other monoamine oxidase inhibitors; parenteral forms of reserpine or guanethidine; sympathomimetic drugs; foods high in tyramine such as cheese; imipramine and amitriptyline, or similar antidepressants; methyl dopa. 2 week interval should separate therapy and use of these agents.

Methyclothiazide is contraindicated in patients with known sensitivity to thiazides.

**Warnings:** Pargyline hydrochloride is a monoamine oxidase inhibitor. Warn patients against eating cheese, and using alcohol, proprietary drugs or other medication without the knowledge of the physician. When indicated, alcohol, narcotics (meperidine should be avoided), antihistamines, barbiturates, chloral hydrate, and other hypnotics, sedatives, tranquilizers, or caffeine, may be used cautiously in reduced dosage. In emergency surgery  $\frac{1}{4}$  to  $\frac{1}{2}$  the usual dose of narcotics, analgesics, and other premedications should be used avoiding parenteral administration where possible. Carefully adjust dose of anesthetics to response of patient. Withdraw pargyline two weeks before elective surgery.

Warn patients about the possibility of postural hypotension. Those with angina or coronary artery disease should not increase physical activity with an improvement in well being. Pargyline may lower blood sugar.

Avoid use of enteric-coated potassium tablets, as these may induce serious or fatal small-bowel lesions consisting of stenosis with or without ulceration. These small-bowel lesions have caused obstruction, hemorrhage and perforation frequently requiring surgery. Medication should be discontinued immediately if abdominal pain, distension, nausea, vomiting or GI bleeding occurs. These products contain no added potassium salts and if added potassium intake is desired, dietary supplementation is recommended. Coated potassium tablets should be reserved for cautious use when adequate dietary supplementation is impractical. In patients with a history of allergy or asthma the possibility of sensitivity reactions should be considered.

**Precautions:** Measure blood pressure while patient is standing to determine antihypertensive effect. Use with caution in hyperactive or hyperexcitable persons. Such persons may show increased restlessness and agitation. Withdraw drug during acute febrile illness. Watch patients with impaired renal function for increasing drug effects or elevation of BUN and other evidence of progressive renal failure; withdraw drug if such alterations persist and progress. Use with caution in patients with liver disease. As with all new drugs, complete blood counts, urinalyses, and liver function tests should be performed periodically. With prolonged therapy, examine patients for change in color perception, visual fields and fundi. Also reported have been: blood dyscrasias including thrombocytopenia with purpura, agranulocytosis and aplastic anemia; elevations of BUN, serum uric acid, or blood sugar. Symptomatic gout may be induced. In surgical patients thiazides may reduce response to vasopressors and increase response to tubocurarine.

**Adverse Reactions:** Pargyline may be associated with orthostatic hypotension. Mild constipation, slight edema, dry mouth, sweating, increased appetite, arthralgia, nausea and vomiting, headache, insomnia, difficulty in micturition, nightmares, impotence, delayed ejaculation, rash, and purpura have been encountered with pargyline. Hyperexcitability, increased neuromuscular activity (muscle twitching) and other extrapyramidal symptoms have been reported in a few patients with reduced cardiac reserve.

During intensive or prolonged therapy, guard against hypochloremic alkalosis and hypokalemia (especially the latter if patient is on digitalis). Observe all patients for signs of hyponatremia ("low salt" syndrome).

Reported thiazide reactions also include anorexia, nausea, vomiting, diarrhea, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, and pancreatitis. Nocturia has been observed with the combination.



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# when bursitis hits a 280-lb. tackle, hit back with Butazolidin alka



**Indications:** Osteoarthritis, rheumatoid arthritis, rheumatoid spondylitis, psoriatic arthritis, acute gout, painful shoulder (peritendinitis, capsulitis, bursitis and acute arthritis of that joint), acute superficial thrombophlebitis.

**Contraindications:** Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently. Large doses of Butazolidin alka are contraindicated in glaucoma.

**Warning:** If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Instances of severe bleeding have occurred. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

**Precautions:** Before prescribing, carefully select patients, avoid those responsive to routine measures as well as contraindicated patients. Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should not exceed recommended dosage, should be closely supervised and should be warned to discontinue the drug and report immediately if fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage occur. Make regular blood counts. Discontinue the drug immediately and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensive

**Adverse Reactions:** The most common are nausea, edema and rash. Swelling of the ankles or face may be minimized by withholding dietary salt, reduction in dosage or use of diuretics. In elderly patients and in those with hypertension the drug should be discontinued with the appearance of edema. The drug has been associated with peptic



For 280-lb. tackles — or 108-lb. housewives — Butazolidin alka can hasten recovery from the agonizing pain of shoulder bursitis.

It's not for every patient. Check carefully the Contraindications, Warning and Precautions shown below.

And adverse reactions may occur. The most common are nausea, edema and rash. Rarely, agranulocytosis has been reported. All adverse reactions are listed below, too.

Play-for-pay or workaday patients — when they come up with shoulder bursitis and your clinical judgment indicates Butazolidin alka — go with it.

And watch the comeback.



and may reactivate a latent peptic ulcer. The patient should be instructed to take doses immediately before or after meals or with milk to minimize gastric upset. Mild drug rashes frequently subside with reduction of dosage. However, rash accompanied by fever or other systemic reactions usually requires withholding medication. Erythematous rash has also been reported. Agranulocytosis, exfoliative dermatitis, Stevens-Johnson syndrome, or a generalized allergic reaction similar to serum sickness may occur and require permanent withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported. While not definitely attributable to the drug, a causal relationship cannot be excluded. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

6509-V(B)R2

## Butazolidin<sup>®</sup> alka

Capsules

100 mg. phenylbutazone  
100 mg. dried aluminum hydroxide gel  
150 mg. magnesium trisilicate  
1.25 mg. homatropine methylbromide

*Dosage in painful shoulder:* Initial: 3 to 6 capsules daily in 3 or 4 equal doses. Trial period: 1 week. Maintenance dosage should not exceed 4 capsules daily; response is often achieved with 1 or 2 capsules daily.

For complete details, please see full prescribing information.

Geigy Pharmaceuticals  
Division of Geigy Chemical Corporation, Ardsley, New York







## Diagnosis:

cystitis?  
pyelonephritis?  
pyelitis?  
urethritis?  
prostatitis?  
in any case,  
usually gram-negative\*

## Therapy:

two 500 mg. Caplets® q.i.d.  
(initial adult dose)

**Indications:** Urinary tract infections caused by gram-negative and some gram-positive organisms.

**Side effects:** Mainly mild, transient gastrointestinal disturbances; in occasional instances, drowsiness, fatigue, pruritus, rash, urticaria, mild eosinophilia, reversible subjective visual disturbances (overbrightness of lights, change in visual color perception, difficulty in focusing, decrease in visual acuity and double vision), and reversible photosensitivity reactions. Marked overdosage, coupled with certain predisposing factors, has produced brief convulsions in a few patients.

**Precautions:** As with all new drugs, blood and liver function tests are advisable during prolonged treatment. **Pending further experience, like most chemotherapeutic agents, this drug should not be given in the first trimester of pregnancy. It must be used cautiously in patients with liver disease or severe impairment of kidney function.** Because photosensitivity reactions have occurred in a small number of cases, patients should be cautioned to avoid unnecessary exposure to direct sunlight while receiving NegGram, and if a reaction occurs, therapy should be discontinued. The dosage recommended for adults and children should not arbitrarily be doubled unless under the careful supervision of a physician. Bacterial resistance may develop.

When testing the urine for glucose in patients receiving NegGram, Clinistix® Reagent Strips or Tes-Tape® should be used since other reagents give a false-positive reaction.

**Dosage:** Adults: Four Gm. daily by mouth (2 Caplets® of 500 mg. four times daily) for one to two weeks. Thereafter, if prolonged treatment is indicated, the dosage may be reduced to two Gm. daily. Children may be given approximately 25 mg. per pound of body weight per day, administered in divided doses. The dosage recommended above for adults and children should not arbitrarily be doubled unless under the careful supervision of a physician. Until further experience is gained, infants under 1 month should not be treated with the drug.

**How supplied:** Buff-colored, scored Caplets® of 500 mg. for adults, conveniently available in bottles of 56 (sufficient for one full week of therapy) and in bottles of 1000. 250 mg. for children, available in bottles of 56 and 1000.

**References:** (1) Based on 23 clinical papers, 1512 cases. Bibliography on request. (2) Bush, I. M., Orkin, L. A., and Winter, J. W., in Sylvester, J. C.: Antimicrobial Agents and Chemotherapy — 1964, Ann Arbor, American Society for Microbiology, 1965, p. 722.

# NegGram

Brand of

## nalidixic acid

a specific anti-gram-negative

## eradicates most urinary tract infections...

- Low incidence of untoward effects; no fungal overgrowth, crystalluria, ototoxic or nephrotoxic effects have been observed.
- "Excellent" or "good" response reported in *more than 2 out of 3* patients with either chronic or acute gram-negative infections.<sup>1</sup>

\*As many as 9 out of 10 urinary tract infections are now caused by gram-negative organisms: E. coli, Klebsiella, Aerobacter, Proteus, Paracolon or Pseudomonas<sup>2</sup>... However, infections of the urethra and prostate caused by non-gonococcal gram-negative organisms are believed to be less prevalent.

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problem. Available on your prescription or recommendation.

*For acute, non-specific diarrheas*

**Donnagel® -PG** (Donnagel with paregoric equivalent).

Donnagel formula plus powdered opium, USP, 24.0 mg. (equivalent to paregoric 6 ml.) (warning: may be habit forming). Alcohol, 5%.

All the antidiarrheal benefits of paregoric without the unpleasant taste. Real banana flavor makes it acceptable, even to children. See product literature before prescribing.

A. H. Robins Company  
Richmond, Va. 23220

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*For coughs of colds and "flu"*  
**ROBITUSSIN®**  
Each 5 cc. contains:  
Glyceryl guaiacolate . . . . . 100 mg.  
Alcohol, 3.5%

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Each 5 cc. contains:  
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(warning; may be habit forming)  
Alcohol, 3.5%

*Non-narcotic for 6-8 hour cough control*  
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Alcohol, 1.4%

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**ROBITUSSIN®-PE**  
Each 5 cc. contains:  
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DEMULCENT	●	●	●	●
COUGH SUPPRESSANT		●	●	
ANTIHISTAMINE		●		
LONG-ACTING (6-8 HOURS)			●	
NASAL, SINUS DECONGESTANT				●

PHOTO BY VICTOR HAND

A. H. Robins Company, Richmond, Va. 23220

A·H·ROBINS

# INFLAMMATION: A cellular fight for life

*A SYNTEX REPORT based on recently developed hypotheses about topical corticosteroids, including the cellular theories of inflammation by Thomas F. Dougherty, Ph.D., University of Utah.*

You are looking at a fibroblast fighting for life. This cell—one of the most common found in connective tissue—has literally been poisoned by cytotoxins released from other cells that have ruptured. Soon, if the abnormal activity of this fibroblast does not cease, it, too, will rupture and die—one more casualty in the inflammatory wave of destruction precipitated by injury.

Until a short time ago no one had ever witnessed such a scene at the cellular level. Now, through advanced cinemicrographic techniques, it is possible to view and photograph the inflammatory process as produced experimentally in living animal tissue. This method permits new insight into the mechanism of inflammation and the role of corticosteroids in therapeutic management. Equally important, these techniques shed new light on factors that may make one corticosteroid more effective than another—factors that can be correlated with other chemical, biologic, and clinical parameters.

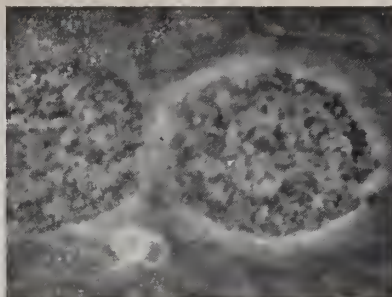


## Visual evidence of how corticosteroids influence the inflammatory reaction

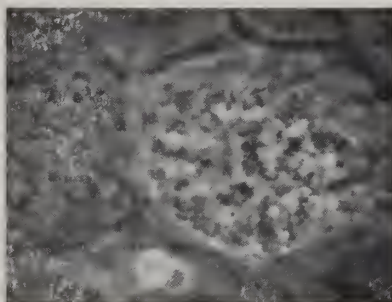
Working with phase-contrast cinematography on living animal tissue, Doctors Thomas F. Dougherty and David Berliner of the University of Utah College of Medicine have actually filmed cellular events that occur during the inflammatory reaction. This remarkable study\* and additional work by these investigators, as well as by others, have established a new theoretical biologic basis for the antiinflammatory effect of the corticosteroids. (It must be noted that other theories, such as the lysosome or so-called "suicide bag" theory, have been postulated, although it is quite likely that there are more similarities than differences among the various theoretical models.)

### The inflammatory wave of destruction

In this investigation an injurious injection of gelatin is used to set off an inflammatory reaction in living mouse tissue. What follows is a wave of destructive cellular activity that comprises the inflammatory response to injury. Mast cells (which contain heparin, serotonin and histamine) take up water, swell and rupture, releasing their contents, which are toxic outside the mast cell wall. These toxins, in turn, cause disintegration of other cells (such as fibroblasts) and the release of additional toxic material. Capillaries, too, take up water and leak unformed blood elements, causing edema. And polymorphonuclears, lymphocytes and perithelial cells invade the inflamed site. As a result of all these changes, the cellular environment reaches a state of turmoil.



*Phase-contrast microscopy showing mast cell before injury.*



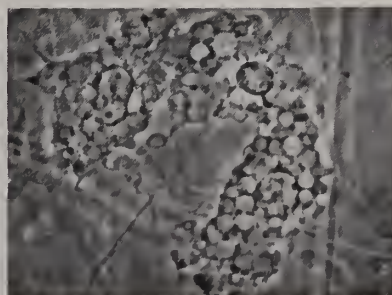
*Mast cell (after injury) has broken up and released cytotoxins.*

### How corticosteroids change the picture

Corticosteroids appear to virtually stop the abnormal cellular activity that constitutes the inflammatory reaction. This permits the body's natural resources to clear up the inflamed area and repair the damaged tissue. This interpretation is supported by the fact that when the injurious gelatin solution is injected simultaneously with a corticosteroid — Synalar (fluocinolone acetonide) — the inflammatory pattern simply does not develop.



*Fibroblast in high state of activity, much distorted.*



*Mast cells showing effects of corticosteroid action: cells are normal in size, shape and activity.*



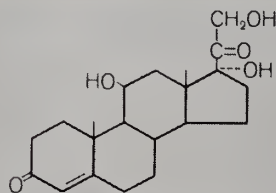
In summarizing his study Doctor Dougherty states: "...we also feel this work may explain why one corticosteroid helps a patient more rapidly and effectively than another. If it does, it is because one corticosteroid is the fastest, most effective inhibitor of the series of inflammatory events at the tissue level."

*\*A New View of Corticosteroid Action in Inflammatory Dermatoses, a film based on this study, is now available from your Syntex representative.*

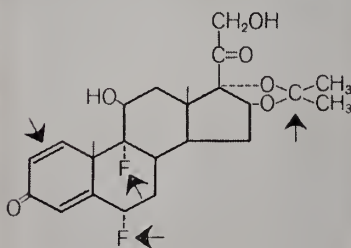


# How advances in chemical design have achieved greater steroid potency

The chemical modification of corticosteroid molecules from the advent of hydrocortisone to the development of Synalar (fluocinolone acetonide) is a prime example of how biochemists can "design" to increase therapeutic activity and minimize undesirable side actions. Below, for example, we see the important changes that were made in reference to the hydrocortisone molecule to produce fluocinolone acetonide, one of the most active of all topical corticosteroids. As a result, a 0.01% preparation of Synalar (fluocinolone acetonide) has been reported to do the work of a 1% hydrocortisone product containing 100 times more corticosteroid. And it can often do it more effectively.



**Hydrocortisone**

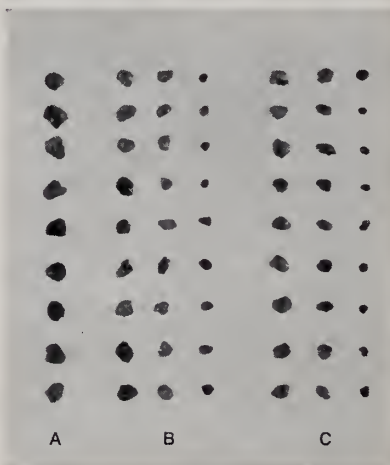


**Fluocinolone Acetonide (Synalar)**

- ☐ a double bond between carbons 1 and 2
- ☐ fluorine substitutions at both the 6- $\alpha$  and the 9- $\alpha$  positions
- ☐ the addition of the acetonide at the 16- $\alpha$ , 17- $\alpha$  positions, thus providing one of the most potent topical corticosteroids available.

## How bioassay tests are used to "predict" therapeutic potential

Biologic assays are another tool used by researchers to help establish the relative activity of corticosteroids. To date no single method of assaying corticosteroid activity has emerged as the ideal "yardstick" for predicting therapeutic potential. Taken together, however, these methods have proved useful. When such tests are run on various corticosteroids, a definite order of corticosteroid activity becomes evident. Compounds with the highest order of activity may be expected to merit clinical trial to establish their high therapeutic potential. When assayed by these methods, fluocinolone acetonide (Synalar) emerges as one of the most active topical corticosteroids, milligram for milligram, available for clinical application today.



THE THYMUS INVOLUTION ASSAY<sup>1-4</sup> is run on adrenalectomized rats. The sizes of the glands are measured, and the degree of involution caused by the steroid is determined as an indication of its potency. In the above photo, the comparative involution of thymus glands achieved with hydrocortisone and Synalar (fluocinolone acetonide) is shown. Untreated controls (A) show normal size. Group B— injected with 1, 2 and 4 mg. of hydrocortisone—show progressively smaller thymuses as does Group C— injected with fluocinolone acetonide—but with only 1/500th the dose of hydrocortisone.



THE ANTIGRANULOMA ASSAY<sup>1-4</sup> also utilizes adrenalectomized rats. Granulomas are induced by subcutaneous implantation of cotton pellets on either side of the thorax. The degree of granuloma inhibition achieved by a steroid reflects its potency. The above photo shows the inhibition of granuloma formation achieved with hydrocortisone and Synalar (fluocinolone acetonide). Untreated controls (A) show large, red granulomas adhering to the pellets. Group B, receiving hydrocortisone and Group C, receiving fluocinolone acetonide, show little, if any, granuloma formation. Fluocinolone acetonide produced the same effect as hydrocortisone with only 1/500th the dose. This assay, as well as the thymus involution assay, measures systemic rather than topical corticosteroid activity. Nevertheless, results by these methods correlate well with other assays and with the milligram potencies of topical steroids in current clinical use.

# Worldwide clinical experience confirms the predictable therapeutic potential of Synalar

It is particularly gratifying that the promise of the advanced chemical design and high order of bioassay activity of Synalar (fluocinolone acetonide) has been confirmed by widespread therapeutic application. Indeed, the impressive clinical response rate of Synalar has been documented in no fewer than 232 papers from 22 countries.

## PRESCRIBING INFORMATION

*For initiation of therapy:* Cream 0.025%, 5 and 15 Gm. tubes, 425 Gm. jars; *for emollient effect:* Ointment 0.025%, 15 Gm. tubes; *for maintenance therapy:* Cream 0.01%, 15 and 45 Gm. tubes, 120 Gm. jars; *for intertriginous or hairy sites:* Solution 0.01%, 20 cc. and 60 cc. plastic squeeze bottles; *for infected inflammatory dermatoses:* Neo-Synalar® Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes.

**CONTRAINDICATIONS:** Tuberculous, fungal, and most viral lesions of the skin, (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components. **PRECAUTIONS:** Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for pro-

## Representative Clinical Results with Synalar\*

Efficacy Documented in over 4,000 Patients

Condition	Number of Publications	Number of Patients	Significant Improvement†
Contact Dermatitis	27	750	713
Eczematous Dermatitis	21	472	409
Seborrheic Dermatitis	18	442	426
Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
<b>Total</b>	<b>144</b>	<b>4,174</b>	<b>3,808</b>

\*Complete bibliography on request.

†Expressed by the authors as excellent, very good, good, complete remission of inflammation, etc.

longed periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. **SIDE EFFECTS:** Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

**REFERENCES:** 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. *Ann NY Acad Sci* 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. *Proc Soc Exp Biol Med* 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: *Methods of hormone research*, New York, Academic Press, 1964. vol. III. pp. 234-280. 4. Gubersky, V. R.: To be published.

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# Synalar®

(fluocinolone  
acetonide)

Milligram for milligram  
one of the most active topical  
corticosteroids available

Rapid and predictable  
in antiinflammatory and  
antipruritic activity

Results often comparable to  
those of systemic corticosteroids  
with fewer hazards





The relief received from the first Trocinat 400 mg. tablet is so prompt that the discomfort of diarrhea ceases to be a bother. May be repeated every four hours.

Upon request, a supply of Trocinat 400 mg. with literature will be sent to physicians for their personal use.



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# Diarrhea

**TROCINATE® 400 MG.**  
**BRAND THIPHENAMIL HCl.**

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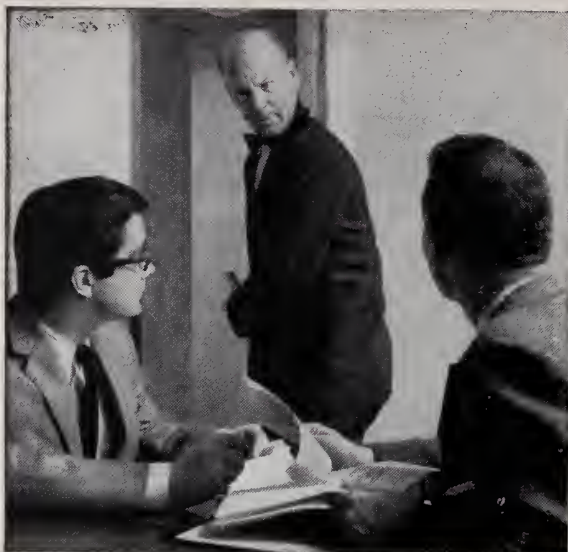
It is an anticholinergic drug without narcotic properties. Side effects are usually mild.

**IN BRIEF:** One or two tablets three times a day and one or two at bedtime usually provide prompt relief. Cantil with Phenobarbital may be prescribed if sedation is required.

Dryness of the mouth, blurring of vision, constipation, nausea, vomiting, bloating and dizziness may occur but are usually mild and transitory. Urinary retention is rare. Caution should be observed in prostatic hypertrophy—withdraw in glaucoma. Contraindicated in patients sensitive to phenobarbital and/or Cantil (mepenzolate bromide); in toxic megacolon, obstruction of G.I. or G.U. tract.

**SUPPLIED:** CANTIL (mepenzolate bromide) — 25 mg. per scored tablet. Bottles of 100 and 250. CANTIL with PHENOBARBITAL — containing in each scored tablet 16 mg. phenobarbital (warning: may be habit forming) and 25 mg. mepenzolate bromide. Bottles of 100 and 250.

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Whether it's a 24-hour "bug", a food problem,  
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Contains opium (¼ grain) 15 mg. per fluid  
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*warning: may be habit forming*  
Pectin ..... (2½ grains) 162 mg.  
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Usual Adult Dose: One or two tablespoons three  
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fall 1967

**DORSEY**

# Season

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this issue: smog, smaze or smust...



# Smog, smaze or smust...effects of air pollution on upper respiratory tract

Nathan Flaxman, M.D., Diplomate, American Board of Internal Medicine, Chicago, Illinois

In Los Angeles it is *smog* (smoke and fog). In New York City *smaze* (smoke and haze). In El Paso *smust* (smoke and dust). The original factor was smoke plus such natural phenomena as fog, haze and dust, but air pollution has mushroomed from a smoke problem in our industrial cities into a major economic, esthetic and public health problem that affects practically every American locality and citizen.<sup>1,2</sup> Respiratory disease, of course, is by far the most costly effect of air pollution, for contaminated air can aggravate our illnesses, deplete our strength and shorten our life span.<sup>1</sup>

The greatest problem in dealing with solid wastes is that they are not quickly returned to dust. To aid the decomposing process, the great bulk of such waste is burned, polluting our air in the process.<sup>3</sup> Dr. Jack McKee of the California Institute of Technology<sup>4</sup> has calculated that in Los Angeles County, which has more than six million people, about three pounds of gaseous wastes per person per day (on a dry-weight basis) enter the atmosphere. This is twice as much as solid refuse disposal and six times as much as the contaminants in waste water. It is estimated that in New York City, 730 pounds of pollutants, a little over half the size of a compact two-door sedan of foreign make, is annually thrown into the air for each man, woman and child in the city.<sup>5</sup>

Air pollution is an evident factor, not only in the common cold and upper respiratory disease, but also in chronic bronchitis,<sup>2</sup> pulmonary emphysema,<sup>6</sup> bronchial asthma,<sup>7</sup> pneumonitis and lung cancer.<sup>8</sup> Its effect on the incidence of pulmonary tuberculosis is unproved,<sup>9</sup> although it is conceivable that the

presence of various materials polluting the air might do this. A siege of smog in Denver, the "mile high city," in December 1965 was accompanied by respiratory infection that doubled normal absentee rates in schools, factories and city government.<sup>10</sup>

While air pollution is only one factor, it has become important in the causes of most of the afflictions of the respiratory tract. This has been shown not only by the Denver occurrence, but also by detailed study<sup>2</sup> of respiratory illness in a small group of 313 men



from October 1962 to May 1963 when there were 202 episodes involving the upper respiratory tract. The attack rate of illness was related in time to increased concentration of both smoke and sulphur dioxide in the atmosphere of the district in which the men lived.

Other factors often mentioned, include exposure to those who have colds, exposure to extreme changes of temperature, allergy and bacterial infection. However, when low individual resistance due to lack of rest, overwork, fatigue, improper or unbalanced diet, previous illness and emotional stress are included as causes, we enter the realm of somewhat obscure relationships. Much more emphasis can be placed on the role of polluted air.

**t**he symptoms, signs and complications of involvement of the upper respiratory tract, especially the common cold, are the same regardless of the causative factor. Swelling of the lining of the nose, the scratchy dry throat, the discharge from the nose at first watery then thicker, discolored and more tenacious, the eyes tearing, and frequent sneezing are all part of the Number 1 human ailment. Concurrent or residual sinusitis when mucus is trapped there, middle ear involvement due to interference with drainage, laryngitis and bronchitis are complications of the common cold. The primary interference is with a most important function of the nose—the cleansing of foreign matter in the first line of “air defense” to prevent it from entering the breathing tract.

However, the diagnosis and subsequent decision on how to treat the patient so affected rests basically on the relief of symptoms that cause him the misery. The stuffed, runny nose, the clogged ears, and the harsh dry cough—all the symptoms that make common cold sufferers feel miserable and interfere with their sleep—can be alleviated with medications of the oral nasal decongestant/antihistamine combination type. The burning sensation in the throat, sore-

For nature's hazards:  
nasal congestion  
due to seasonal  
allergies and  
summer colds



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Pheniramine maleate .....	6.25 mg.
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For nasal congestion regardless of cause, you can bring quick, lasting comfort to your little patients with Triaminic Syrup. You may occasionally encounter these side effects: drowsiness, blurred vision, cardiac palpitations, flushing, dizziness, nervousness or gastrointestinal upsets. Precautions: the possibility of drowsiness should be considered by patients engaged in mechanical operations requiring alertness. Use with caution in patients with hypertension, heart disease, diabetes, or thyrotoxicosis.

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ness of the chest and even chest pain can also be relieved by such medication. Rest in bed if there is fever (but confined to home at least), liberal fluids, uniformly warm surroundings and adequate humidity in the room, are all helpful adjuncts to the medication. Most common cold sufferers recover rapidly and are symptom-free in four to ten days.

Further treatment, altered by the fact that the affliction hangs on for more than the usual duration of the common cold, requires consideration of allergy, which is most frequently the prolonging factor. But air pollution itself may often be the culprit.

(Concluded on following page)





**a**t the Third National Conference on Air Pollution held recently, it was emphasized that this subject had received more attention in the past four years than in all previous history. Spicer,<sup>11</sup> an active participant at this conference, reiterated that it behooves the practicing physician to be aware of trends in respiratory disease and to accept a major role in community action relating to air pollution and respiratory health. By taking a positive stand physicians have been instrumental in the development of anti-pollution legislation. An outstanding example is Los Angeles where major steps have been taken by abolishing coal burning, and even banishing oil burning, seven months a year. Natural gas must be used instead and it must be used by industry when available. Backyard incinerators have been abolished in favor of landfill disposal, and building incineration ended except for a few expensive smokeless furnaces.<sup>10</sup> Concerted action can be taken against particular industrial nuisances. One company that disregarded complaints discovered its error when thousands of its credit cards were returned by irate customers who decided to patronize competing companies.<sup>12</sup>

**Summary.** Respiratory disease is the most important and most costly effect of air pollution, whether termed smog, smaze, or smust. Air pollution is an economic, esthetic and public health problem that affects practically every American locality and citizen. New sources of air pollution are invisible and odorless, but the harmful gases and liquid droplets are there. Triggered by sunlight, some of these undergo mid-air chemical changes and the results are even more irritating to the upper respiratory tract. The symptoms, signs and complications, especially of the upper respiratory tract, can be readily aborted by modern medication but may be unduly prolonged by polluted air. In steps taken to prevent this, the practicing physician can take a major role.

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Before prescribing, please consult complete product information, a summary of which follows:

**Contraindications:** Infants, patients with history of convulsive disorders, glaucoma or known hypersensitivity to drug.

**Warning:** Not of value in the treatment of psychotic patients, and should not be employed in lieu of appropriate treatment.

**Precautions:** Limit dosage to smallest effective amount in elderly or debilitated patients (not more than 1 mg, one or two times daily initially) to preclude ataxia or oversedation, increasing gradually as



needed or tolerated. As is true of all CNS-acting drugs, until correct maintenance dosage is established, advise patients against possibly hazardous procedures requiring complete mental alertness or physical coordination. Driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. If such combination therapy is used, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of Valium (diazepam), such as phenothiazines, barbiturates, MAO inhibitors and other antidepressants. Advise patients against simultaneous ingestion of alcohol or other CNS depressants. Safe use in pregnancy not established. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Observe usual precautions in impaired renal or hepatic function.

Periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.

**Side Effects:** Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash; paradoxical reactions (excitement, depression, stimulation, sleep disturbances, acute hyperexcited states, hallucinations); changes in EEG patterns during and after drug treatment. Abrupt cessation after prolonged overdosage may produce withdrawal symptoms (convulsions, tremor, abdominal and muscle cramps, vomiting, sweating) similar to those seen with barbiturates, meprobamate and chlordiazepoxide HCl.

**Dosage:** *Adults:* Mild to moderate psychoneurotic reactions, 2 to 5 mg b.i.d. or t.i.d.; severe psychoneurotic reactions, 5 to 10 mg t.i.d. or q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; muscle spasm with cerebral palsy or athetosis, 2 to 10 mg t.i.d. or q.i.d. *Geriatric patients:* 1 or 2 mg/day initially, increase gradually as needed and tolerated. (See Precautions.)

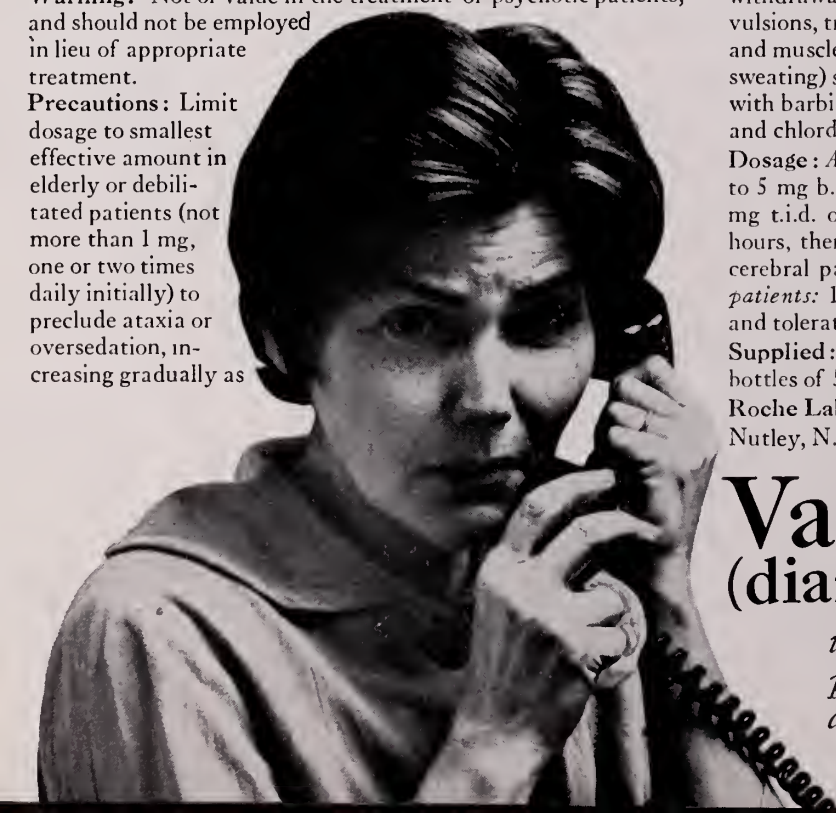
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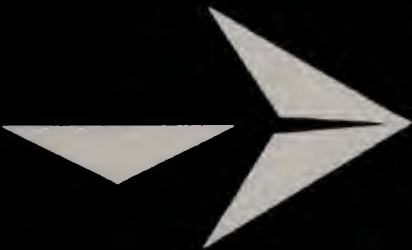


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**Contraindications:** Barbiturates should not be administered to anyone with a history of porphyria, nor should they be given in the presence of uncontrolled pain, because excitement may result.

**Warning:** May be habit-forming.

**Precautions:** Tuinal should be used cautiously in patients with decreased liver function, since prolongation of effect may occur.

**Adverse Reactions:** Idiosyncrasy, such as excitement, hangover, or pain, may appear. Hypersensitivity reac-

tions occur in some patients, especially in those with asthma, urticaria, or angioneurotic edema.

**Overdosage:** C.N.S. depression. **Symptoms**—Depression of respiration and of superficial and deep reflexes, slight constriction of the pupils (in severe poisoning, dilation), decreased urine formation, lowered body temperature, coma. **Treatment**—Symptomatic and supportive (gastric lavage; intravenous fluids; maintenance of blood pressure, body temperature, and adequate respiration). Dialysis may speed removal of barbiturates from body fluids.



**Dosage:** 50-200 mg. ( $\frac{3}{4}$ -3 grains) at bedtime.

[031767]

Additional information available to physicians upon request.  
Eli Lilly and Company • Indianapolis, Indiana 46206



700955



# First Colony Life Insurance Company announces a disease-specific insurance program for the diabetic.



This special disease-specific insurance program takes into consideration the specific protection needs of the diabetic.

Features include:

- (1) health insurance including in-hospital benefits and disability income;
- (2) life insurance with greatest coverage during "responsibility years";
- (3) coverage for diabetes complications such as diabetic retinitis, amputation of extremities and diabetic polyneuritis;

(4) specific financial inducement for an annual physical by the personal physician;

(5) a continuing program of educational and informational material.

This unique, disease-specific insurance program is now available to the controlled diabetic patient. Your patient may get complete information and educational materials with no obligation through his pharmacist, or by writing us or contacting one of our representatives.

## FIRST COLONY LIFE

Insurance Company, Lynchburg, Virginia

IRON DEFICIENCY

# ANEMIA



## Imferon® (iron dextran injection)

There's as much iron . . . 250 mg. . . in a 5 cc. ampul of Imferon (iron dextran injection) as in a pint of whole blood. When iron deficient patients are intolerant of oral iron . . . or orally administered iron proves ineffective or impractical . . . or if the patient cannot be relied upon to take oral iron as prescribed, Imferon (iron dextran injection) dependably increases hemoglobin and rapidly replenishes iron reserves. Precise dosage is easily calculated.



**IN BRIEF: ACTION AND USES:** A single dose of Imferon (iron dextran injection) will measurably begin to raise hemoglobin and a complete course of therapy will effectively rebuild iron reserves. The drug is indicated only for specifically-diagnosed cases of iron deficiency anemia and then only when oral administration of iron is ineffective or impractical. Such iron deficiency may include: patients in the last trimester of pregnancy; patients with gastrointestinal disease or those recovering from gastrointestinal surgery; patients with chronic bleeding with continual and extensive iron losses not rapidly replenishable with oral iron; patients intolerant of blood transfusion as a source of iron; infants with hypochromic anemia; patients who cannot be relied upon to take oral iron.

**COMPOSITION:** Imferon (iron dextran injection) is a well-tolerated solution of iron dextran complex providing an equivalent of 50 mg. in each cc. The solution contains 0.9% sodium chloride and has a pH of 5.2-6.0. The 10 cc. vial contains 0.5% phenol as a preservative.

**ADMINISTRATION AND DOSAGE:** Dosage, based upon body weight and Gm. Hb/100 cc. of blood, ranges from 0.5 cc. in infants to 5.0 cc. in adults, daily, every other day, or weekly. Initial test doses are advisable. The total iron requirement for the individual patient is readily obtainable from the dosage chart in the package insert. Deep intramuscular injection in the upper outer quadrant of the buttock, using a Z-track technique, (with displacement of the skin laterally prior to injection), insures absorption and will help avoid staining of the skin. A 2-inch needle is recommended for the adult of average size.

**SIDE EFFECTS:** Local and systemic side effects are few. Staining of the skin may occur. Excessive dosage, beyond the calculated need, may cause hemosiderosis. Although allergic or anaphylactoid reactions are not common, occasional severe reactions have been observed, including three fatal reactions which may have been due to Imferon (iron dextran injection). Urticaria, arthralgia, lymphadenopathy, nausea, headache and fever have occasionally been reported.

**PRECAUTIONS:** If sensitivity to test doses is manifested, the drug should not be given. Imferon (iron dextran injection) must be administered by deep intramuscular injection only. Inject only in the upper outer quadrant of the buttock, not in the arm or other exposed area.

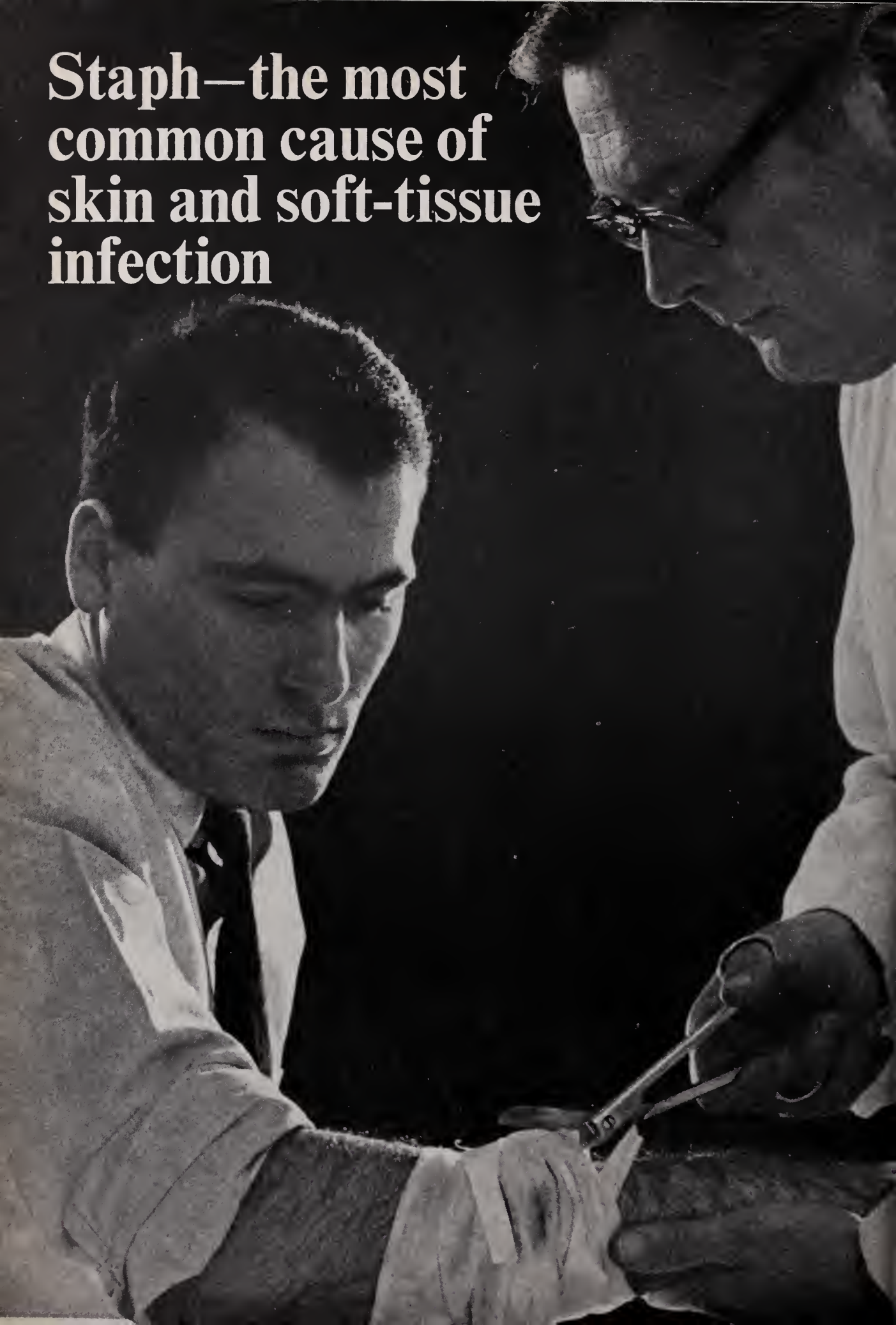
**CONTRAINDICATIONS:** Imferon (iron dextran injection) is contraindicated in patients sensitive to iron dextran complex. Since its use is intended for the treatment of iron deficiency anemia only it is contraindicated in other anemias.

**CARCINOGENICITY POTENTIAL:** Using relatively massive doses, Imferon (iron dextran injection) has been shown to produce sarcoma in rats, mice and rabbits and possibly in hamsters, but not in guinea pigs. The risk of carcinogenesis, if any in man, following recommended therapy with Imferon (iron dextran injection) appears to be extremely small.

**SUPPLIED:** 2 cc. ampuls, boxes of 10; 5 cc. ampuls, boxes of 4, 10 cc. multiple dose vials.

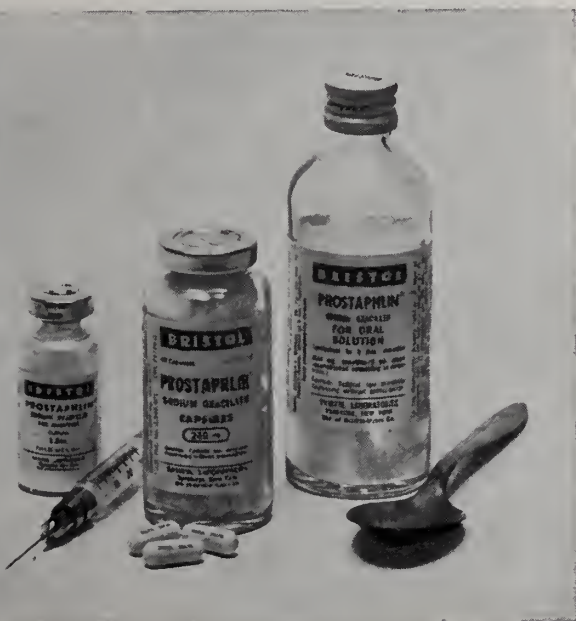
LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

**Staph—the most  
common cause of  
skin and soft-tissue  
infection**





# reliably controlled with specific therapy



*A suitable dosage form for every staph situation*

Staph—the most common cause of skin and soft-tissue infection—also is responsible for many more serious infections, such as pneumonia, osteomyelitis, and septicemia. Often, a seemingly minor skin infection is the source of metastatic spread to deeper structures. When findings on culture incriminate staph as the cause, Prostaphlin (sodium oxacillin) will provide specific effective therapy.

**Bactericidal effectiveness.** Hardly a staph organism can resist the bactericidal action of Prostaphlin (sodium oxacillin), as shown by a 34-month *in vitro* study. Of all staph isolates tested, 99.5% were sensitive to oxacillin.<sup>1</sup>

**Clinically proven.** There is a high correlation between these *in vitro* findings and clinical results. Of 610 patients treated with Prostaphlin (sodium oxacillin), 89.8% were reported cured or improved, including those with staph infections resistant to penicillin G.<sup>2</sup> And since resistance does not appear to develop *in vivo*, therapy with oxacillin can be extended when necessary.

**Outstanding safety record.** Besides being staph-specific and rapidly absorbed—Prostaphlin (sodium oxacillin) has established an outstanding record of safety during five years of widespread clinical use. Continuous high blood levels of oxacillin have not produced toxic effects on kidney function, assuring a significant margin of safety. However, as with all penicillins, the possibility of allergic response should be considered.

**Capsules, Oral Solution and Injectables.** Prostaphlin (sodium oxacillin) is available in three flexible dosage forms to suit the age of the patient and severity of infection—capsules, an oral solution for pediatric use, and multi-dose vials for injection, I.M. or I.V.

**PRESCRIBING INFORMATION:** For complete information, consult Official Package Circular. **Indications:** Infections caused by Staphylococci, particularly those due to penicillin G-resistant Staphylococci. **Contraindications:** A history of severe allergic reactions to penicillin. **Precautions:** Typical penicillin-allergic reactions may occur. Safety for use in pregnancy and premature infants is not established. Because of limited experience, use cautiously and evaluate organ system function frequently in neonates. Mycotic or bacterial superinfections may occur. Assess renal, hematopoietic and hepatic function intermittently during long-term therapy. **Adverse Reactions:** Skin rashes, pruritus, urticaria, eosinophilia, nausea, vomiting, diarrhea, fever and occasional anaphylaxis. Rare cases of reversible hepatocellular dysfunction have occurred. Moderate SGOT elevations have been noted. Thrombophlebitis has occurred occasionally during intravenous therapy and leukopenia was noted in two cases. **Usual Oral Dosage:** Adults: 500 mg. q.4 or q.6h. Children: 50 mg./Kg./day. **Usual Parenteral Dosage:** Adults: 250-500 mg. q.4 or q.6h. Children: 50 mg./Kg./day. Treat beta-hemolytic streptococcal infections for at least 10 days. Give oral drug 1 to 2 hours before meals. **Supplied:** Capsules—250 and 500 mg. in bottles of 48. Injectable—250 mg., 500 mg., and 1 Gm. dry filled vial for I.M./I.V. use. For Oral Solution—100 ml. bottle, 250 mg./5 ml. when reconstituted.

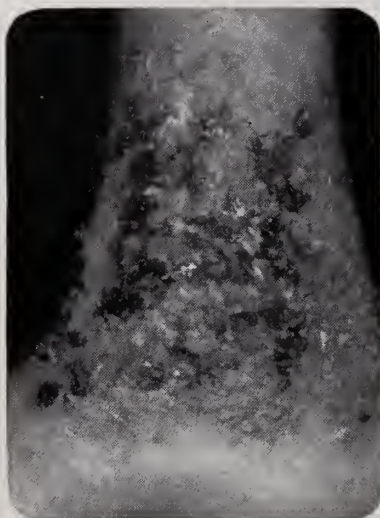
**A.H.F.S. CATEGORY 8:12.16**  
**References:** 1. Abstracted from *Antibiotic Sensitivity of Staphylococci Studied from November 1962 through August 1965*, reported by Griffith, L.J., Staphylococcus Reference Laboratory, V.A. Hospital, Batavia, N.Y. 2. Data on file, Bristol Laboratories.

**BRISTOL**

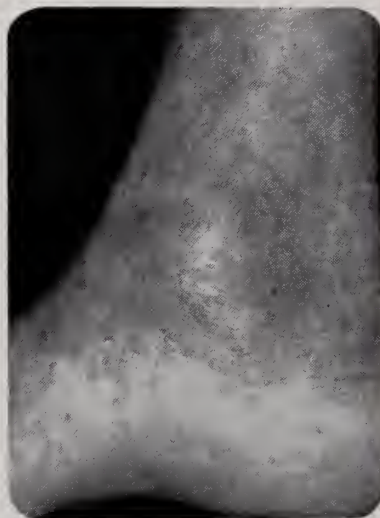
BRISTOL LABORATORIES/Division of Bristol-Myers Co., Syracuse, N.Y.

Whenever you  
suspect staph  
**PROSTAPHLIN®**  
SODIUM OXACILLIN

# Eczema of many years... controlled in two weeks



Before treatment



After treatment —  
with ARISTOCORT Topical  
Ointment 0.1% for two weeks

ARISTOCORT® Triamcinolone Acetonide Topicals have proved exceptionally effective in the control of various forms of eczema: allergic, atopic, nummular, psoriatic, and mycotic.

In most cases responsive to topical ARISTOCORT, the 0.1% concentration is sufficiently potent. The 0.5% concentration provides enhanced topical activity for patients requiring additional potency for proper relief.

*Administration and Dosage:* Apply sparingly to the affected area 3 or 4 times daily. Some cases of psoriasis may be more effectively treated if the 0.1% Cream or Ointment is applied under an occlusive dressing.

*Contraindications:* Tuberculosis of the skin, herpes simplex, chicken pox and vaccinia.

*Precautions and Side Effects:* Do not use in the eyes or in the ear (if drum is perforated). A few individuals react unfavorably under certain conditions. If side

effects are encountered, the drug should be discontinued and appropriate measures taken. Use on infected areas should be attended with caution and observation, bearing in mind the potential spreading of infection and the advisability of discontinuing therapy and/or initiating antibacterial measures. Generalized dermatological conditions may require systemic corticosteroid therapy. Steroid therapy, although responsible for remissions of dermatoses, especially of allergic origin cannot be expected to prevent recurrence. The use over extensive body areas, with or without occlusive nonpermeable dressings, may result in systemic absorption. Appropriate precautions should be taken. When occlusive nonpermeable dressings are used, miliaria, folliculitis and pyoderma will sometimes develop. Localized atrophy and striae have been reported with the use of steroids by the occlusive technique. When occlusive nonpermeable dressings are used, the physician should be aware of the hazards of suffocation and flammability. The safety of use on pregnant patients has not been firmly established. Thus, do not use in large amounts or for long periods of time on pregnant patients.

Available in 5 Gm. and 15 Gm. tubes and ½ lb. jars.

PHOTOGRAPHS COURTESY OF M. M. NIERMAN, M.D.

## Aristocort®

Topical Ointment 0.1% and Cream 0.1%, 0.5%  
Triamcinolone Acetonide

Also available in foam form.



LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

406-G

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# A Building Block approach to treating hypertension

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**With these three therapeutic building blocks  
you can create a once-a-day regimen to fit almost any degree  
of hypertension. See the following pages for details . . .**

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# Consider starting your hypertensives on this basic thiazide



A single daily dose of Enduron provides sodium excretion around the clock

Enduron is a true 24-hour single-dose thiazide. Its sodium excretion is not squeezed into an abrupt peak during the first several hours. It is well-sustained in a plateau-like effect—with little reduction for the first 12 hours, and decline thereafter only gradual.





Potassium loss, by contrast, is low. It reaches an early minor peak, then subsides rapidly. Moreover, since dosage is but once a day, there is but one daily peak of potassium loss. As with all thiazides, however, dietary potassium supplementation should also be considered, especially in long or intensive therapy.

Use Enduron as an ideal starting therapy in mild hypertension. Use it too, as a basic therapeutic building block with which other agents can be joined, for managing your more resistant hypertensives.

Once a day, every day

**ENDURON®**  
METHYLOTHIAZIDE



	Minimum	Usual	Intermediate	Maximum
DAILY DOSAGE RANGE	 2.5 mg. tablet	 5 mg. tablet	 7.5 mg.	 10 mg.

See Brief Summary on final page of advertisement.

# To build added response, shift to Enduronyl



## The deserpidine component adds enhanced antihypertensive activity

The rauwolfia component of Enduronyl is deserpidine (Harmony<sup>®</sup>), a purified crystalline alkaloid supplied only by Abbott. It augments Enduron with its own antihypertensive and tranquilizing action.

Thus the combined clinical effect of these two therapeutic building blocks in Enduronyl is greater than can ordinarily be achieved with either alone.

To add flexibility, Enduronyl comes in two strengths: regular and Forte. Both provide 5 mg. of Enduron. The variation is where most helpful: in the deserpidine. The tablets are scored, and give a surprisingly wide and economical choice of once-a-day doses (see below).

Choose Enduronyl for your patients in the broad range of mild to moderate hypertension. Patient acceptance is excellent!

Once a day, every day









### ENDURONYL<sup>®</sup>

METHYCHLOTHIAZIDE 5 MG. WITH DESERPIDINE 0.25 MG.

### ENDURONYL FORTE

METHYCHLOTHIAZIDE 5 MG. WITH DESERPIDINE 0.5 MG.



	Minimum	Usual	Intermediate	Maximum
DAILY DOSAGE RANGE	 2.5 mg. methyclothiazide 0.125 mg. deserpidine	 5 mg. methyclothiazide 0.25 mg. deserpidine	 7.5 mg. methyclothiazide 0.375 mg. deserpidine	 10 mg. methyclothiazide 0.5 mg. deserpidine
DAILY DOSAGE RANGE	 2.5 mg. methyclothiazide 0.25 mg. deserpidine	 5 mg. methyclothiazide 0.5 mg. deserpidine	 7.5 mg. methyclothiazide 0.75 mg. deserpidine	 10 mg. methyclothiazide 1 mg. deserpidine

See Brief Summary on final page of advertisement.

# Eutonyl affords a different kind of basic therapy for moderate to severe cases



**Effect tied to reduced peripheral vascular resistance; no central depressant action**

Eutonyl is a unique nonhydrazine agent. It is reported to act by reducing peripheral vascular resistance.<sup>1,2</sup>

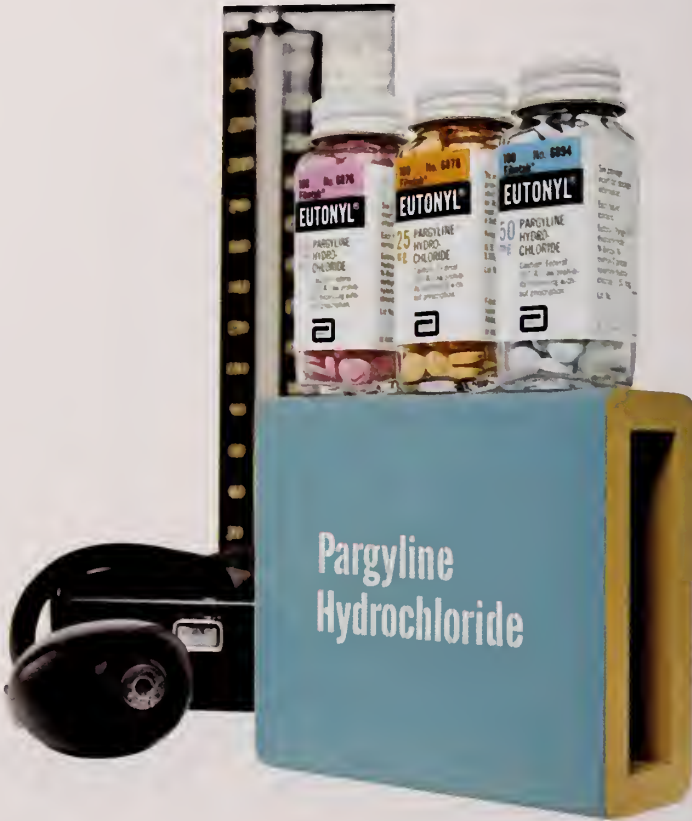
In clinical trials, significant reductions in mean blood pressure were seen in 84% of patients studied—all were moderate to severe cases. Eutonyl lowers diastolic in proportion to systolic, and in about half of the cases studied, reductions in the sitting and recumbent positions were nearly as great as in the standing position.





Most important: There is no central depressant action. In fact, some patients reported an *increased* sense of well being.

Here, then, is a highly effective *basic treatment* for moderate to severe cases—and one that will not hamper your patient with lethargy or drowsiness while on treatment.

Once a day, every day

**EUTONYL®**  
PARGYLINE HYDROCHLORIDE



DAILY DOSAGE RANGE	Minimum	Usual starting	Intermediate	Maximum
				
	10 mg. tablet	25 mg. tablet	50 mg. tablet or as needed	200 mg.

1. Brest, A. N., et al., Cardiac and Renal Hemodynamic Response to Pargyline, Ann. N. Y. Acad. Sci., 107-1016, 1963.  
2. Winsor, T., Pargyline Hydrochloride, Hypertension, Urinary Tryptamine, and Vascular Reflexes, Geriatrics, 19:598, Aug., 1964.

See Brief Summary on final page of advertisement.



# Eutron adds thiazide for enhanced therapy with milder side effects



Only a 7/4 mm. span between standing and recumbent pressures in clinical trials—reduced chance of orthostatic hypotension

The combining of Eutonyl and Enduron in Eutron permits a significantly greater antihypertensive effect than with either agent used alone. This in turn may allow therapeutic success with lesser dosage—and correspondingly milder side effects.





A significant finding in clinical trials was the drug's action in lowering blood pressure to *nearly equal levels in all body positions*. Total average spread between standing and recumbent readings (after treatment) was only 7/4 mm. Hg.

Thus, in your moderate to severe cases, Eutron affords a usually smooth course of therapy, often with reduced likelihood of orthostatic effects. (The usual precautions against rising suddenly, of course, will always apply.) And, because of the thiazide component, Eutron may be used in the presence of congestive heart failure.

Once a day, every day

**EUTRON™**  
PARGYLINE HYDROCHLORIDE 25 MG.  
WITH METHYCHLOTHIAZIDE 5 MG.



	Minimum	Usual starting	Intermediate	Maximum
DAILY DOSAGE RANGE	 <p>12.5 mg. pargyline hydrochloride and 2.5 mg. methyclothiazide</p>	 <p>25 mg. pargyline hydrochloride and 5 mg. methyclothiazide</p>	 <p>37.5 mg. pargyline hydrochloride and 7.5 mg. methyclothiazide</p>	 <p>50 mg. pargyline hydrochloride and 10 mg. methyclothiazide</p>

See Brief Summary on final page of advertisement.

TM—Trademark

707075-R

## ENDURON® ENDURONYL®

### METHYLCLOTHIAZIDE

Each tablet contains  
Methyclothiazide 5 mg. with  
Deserpidine 0.25 mg. or 0.5 mg.

**Indications:** Enduron is used to control edema and mild to moderate hypertension; also used with other drugs for hypertension. Enduronyl is used in mild to moderately severe hypertension; when used with Enduronyl, more potent agents can be given at reduced dosage to minimize undesirable side effects.

**Contraindications:** Neither Enduron nor Enduronyl should be used in severe renal disease (except nephrosis) or shutdown; in severe hepatic disease or impending hepatic coma; in patients sensitive to thiazides. Hepatic coma has been reported as a result of hypokalemia in patients receiving thiazides.

Enduronyl is contraindicated in patients with severe mental depression and suicidal tendencies, active peptic ulcer, or ulcerative colitis.

**Warnings:** Consider possible sensitivity reactions in patients with a history of allergy or asthma. If added potassium intake is indicated, dietary supplementation is recommended. Enteric-coated potassium tablets should be reserved for cautious use only when adequate dietary supplementation is not practical because those tablets may induce serious or fatal small bowel lesions consisting of stenosis with or without ulceration. These small bowel lesions have caused obstruction, hemorrhage and perforation frequently requiring surgery. Medication should be discontinued immediately if abdominal pain, distension, nausea, vomiting or GI bleeding occurs.

**Precautions:** Use thiazides with caution in severe renal dysfunction, impaired hepatic function, or progressive liver disease. In surgical patients, thiazides may reduce the response to vasopressors and increase the response to tubocurarine. Use thiazides with caution in pregnancy (bone marrow depression, thrombocytopenia, or altered carbohydrate metabolism have been reported in certain newborn infants). Also reported have been: blood dyscrasias including thrombocytopenia with purpura, agranulocytosis and aplastic anemia; elevations of BUN, serum uric acid, or blood sugar. Symptomatic gout may be induced. Antihypertensive response may be enhanced following sympathectomy.

Use Enduronyl with caution in patients with a history of peptic ulcer, as rauwolfias may increase gastric secretion. Discontinue at the first sign of mental depression. Rauwolfia alkaloids may increase hypotensive effects of surgery or anesthesia, and should be discontinued two weeks prior. They also lower the convulsive threshold and shorten seizure latency. In epilepsy, dosage adjustment of anticonvulsant medication may be necessary. Alcohol, barbiturates, or narcotics may potentiate action of deserpidine.

**Adverse Reactions:** During intensive or prolonged therapy, guard against hypochloremic alkalosis and hypokalemia (especially the latter if patient is on digitalis). All patients should be observed for signs of hyponatremia ("low-salt" syndrome). Reported thiazide reactions include: anorexia, nausea, vomiting, diarrhea, headache, skin rash, dizziness, paresthesia, weakness, photosensitivity, jaundice, and pancreatitis.

Reported rauwolfia reactions include: nasal stuffiness, nausea, weight gain, diarrhea, aggravation of peptic ulcer, epistaxis, skin eruption, and reduction of libido and potency. Excessive drowsiness, fatigue, weakness, and nightmares may signal early signs of mental depression.

## EUTONYL® EUTRON™

### PARGYLINE HYDROCHLORIDE

Each tablet contains  
Pargyline Hydrochloride 25 mg.  
with Methyclothiazide 5 mg.

**Indications:** For treatment of patients with moderate to severe hypertension, especially those with severe diastolic hypertension. Not recommended for patients with mild or labile hypertension amenable to therapy with sedatives and/or thiazide diuretics alone. It is desirable to establish the dosage of Eutron by administering component drugs separately.

**Contraindications:** Pheochromocytoma, advanced renal disease, increasing renal dysfunction, paranoid schizophrenia and hyperthyroidism. Hepatic coma has been reported as consequence of hypokalemia with thiazide therapy. Until further experience is gained not recommended for patients with malignant hypertension, children under 12, or pregnant patients.

Concomitant use of the following is contraindicated: other monoamine oxidase inhibitors; parenteral forms of reserpine or guanethidine; sympathomimetic drugs; foods high in tyramine such as cheese; imipramine and amitriptyline, or similar antidepressants; methyldopa. 2 week interval should separate therapy and use of these agents.

Methyclothiazide is contraindicated in patients with known sensitivity to thiazides.

**Warnings:** Pargyline hydrochloride is a monoamine oxidase inhibitor. Warn patients against eating cheese, and using alcohol, proprietary drugs or other medication without the knowledge of the physician. When indicated, alcohol, narcotics (meperidine should be avoided), anti-histamines, barbiturates, chloral hydrate, and other hypnotics, sedatives, tranquilizers, or caffeine, may be used cautiously in reduced dosage. In emergency surgery 1/4 to 1/5 the usual dose of narcotics, analgesics, and other premedications should be used avoiding parenteral administration where possible. Carefully adjust dose of anesthetics to response of patient. Withdraw pargyline two weeks before elective surgery.

Warn patients about the possibility of postural hypotension. Those with angina or coronary artery disease should not increase physical activity with an improvement in well being. Pargyline may lower blood sugar.

Avoid use of enteric-coated potassium tablets, as these may induce serious or fatal small-bowel lesions consisting of stenosis with or without ulceration. These small-bowel lesions have caused obstruction, hemorrhage and perforation frequently requiring surgery. Medication should be discontinued immediately if abdominal pain, distension, nausea, vomiting or GI bleeding occurs. These products contain no added potassium salts and if added potassium intake is desired, dietary supplementation is recommended. Coated potassium tablets should be reserved for cautious use when adequate dietary supplementation is impractical. In patients with a history of allergy or asthma the possibility of sensitivity reactions should be considered.

**Precautions:** Measure blood pressure while patient is standing to determine antihypertensive effect. Use with caution in hyperactive or hyperexcitable persons. Such persons may show increased restlessness and agitation. Withdraw drug during acute febrile illness. Watch patients with impaired renal function for increasing drug effects or elevation of BUN and other evidence of progressive renal failure; withdraw drug if such alterations persist and progress. Use with caution in patients with liver disease. As with all new drugs, complete blood counts, urinalyses, and liver function tests should be performed periodically. With prolonged therapy, examine patients for change in color perception, visual fields and fundi. Also reported have been: blood dyscrasias including thrombocytopenia with purpura, agranulocytosis and aplastic anemia; elevations of BUN, serum uric acid, or blood sugar. Symptomatic gout may be induced. In surgical patients thiazides may reduce response to vasopressors and increase response to tubocurarine.

**Adverse Reactions:** Pargyline may be associated with orthostatic hypotension. Mild constipation, slight edema, dry mouth, sweating, increased appetite, arthralgia, nausea and vomiting, headache, insomnia, difficulty in micturition, nightmares, impotence, delayed ejaculation, rash, and purpura have been encountered with pargyline. Hyperexcitability, increased neuromuscular activity (muscle twitching) and other extrapyramidal symptoms have been reported in a few patients with reduced cardiac reserve.

During intensive or prolonged therapy, guard against hypochloremic alkalosis and hypokalemia (especially the latter if patient is on digitalis). Observe all patients for signs of hyponatremia ("low salt" syndrome).

Reported thiazide reactions also include anorexia, nausea, vomiting, diarrhea, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, and pancreatitis. Nocturia has been observed with the combination.



709075R



# DIARRHEA



## CANTIL<sup>®</sup> (mepenzolate bromide)



Diarrhea, one of the most vexing symptoms of common G. I. disorders can often be curbed with Cantil (mepenzolate bromide), bringing welcome relief to the harassed patient. Relatively specific for the hyperactive colon, it helps reduce diarrhea, pain and spasm with minimal effect on other viscera. Cantil (mepenzolate bromide) is indicated whenever these symptoms are associated with irritable colon, gastroenteritis, diverticulitis, and mild to moderate ulcerative colitis.

It is an anticholinergic drug without narcotic properties. Side effects are usually mild.

**IN BRIEF:** One or two tablets three times a day and one or two at bedtime usually provide prompt relief. Cantil with Phenobarbital may be prescribed if sedation is required.

Dryness of the mouth, blurring of vision, constipation, nausea, vomiting, bloating and dizziness may occur but are usually mild and transitory. Urinary retention is rare. Caution should be observed in prostatic hypertrophy — withhold in glaucoma. Contraindicated in patients sensitive to phenobarbital and/or Cantil (mepenzolate bromide); in toxic megacolon, obstruction of G. I. or G. U. tract.

**SUPPLIED:** CANTIL (mepenzolate bromide) — 25 mg. per scored tablet. Bottles of 100 and 250. CANTIL with PHENOBARBITAL — containing in each scored tablet 16 mg. phenobarbital (warning: may be habit forming) and 25 mg. mepenzolate bromide. Bottles of 100 and 250.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201





Maybe you don't want  
your patients to halve Hygroton<sup>®</sup>chlorthalidone.



Maybe your patients complain:  
‘Why don’t they make a tablet I don’t have to halve?’

Please see brief prescribing summary at the end of advertisement.





Maybe you abandoned Hygroton<sub>chlorthalidone</sub>  
because there wasn't a convenient half strength.



**Indications:** Hypertension and many types of edema involving retention of salt and water.

**Contraindications:** Hypersensitivity and most cases of severe renal or hepatic disease.

**Warning:** With the administration of enteric-coated potassium supplements, which should be used only when adequate dietary supplementation is not practical, the possibility of small bowel lesions (obstruction, hemorrhage, and perforation) should be kept in mind. Surgery for these lesions has frequently been required and deaths have occurred. Discontinue enteric-coated potassium supplements immediately if abdominal pain, distention, nausea, vomiting, or gastrointestinal bleeding occur.

Use with caution in pregnant patients, since the drug may cross the placental barrier and cause adverse reactions which may occur in the infant (thrombocytopenia, hyperbilirubinemia, altered carbohydrate metabolism, etc.) are potential problems in the newborn.

**Precautions:** Antihypertensive therapy with Hygroton should always be initiated cautiously in postsympathectomy patients and patients receiving ganglionic blocking agents or other potent antihypertensive drugs, or curare. Reduce dosage of concomitant antihypertensive agents by at least one-half. Carbimide, narcotics or alcohol may potentiate hypotension. Because of the possibility of progression of renal damage, periodic determination of the BUN is indicated. Discontinue if the BUN rises or liver dysfunction is aggravated. Hepatic coma may be precipitated.

Electrolyte imbalance, sodium and/or potassium depletion may occur. If potassium depletion should occur during therapy, Hygroton should be discontinued and potassium supplements given, provided the patient does not have marked oliguria.

Exercise special care in cirrhosis or severe chronic heart disease and in patients receiving corticosteroids, ACTH, or digitalis. Sodium restriction is not recommended.

**Adverse Reactions:** Nausea, gastric irritation, vomiting, anorexia, constipation and cramps, dizziness, weakness, restlessness, hypoglycemia, hyperuricemia, headache, muscle cramps, orthostatic hypotension, aplastic anemia, leukopenia, thrombocytopenia, granulocytosis, impotence, dysuria, transient urticaria, skin rashes, urticaria, purpura, necrotizing angitis, acute gout, and pancreatitis. Epigastric pain or unexplained G.I. symptoms develop after prolonged administration. Other reactions reported with this class of compounds include: jaundice, xanthopsia, paresthesia, and photosensitization.

**Usual Dosage:** One tablet with breakfast or every other day.

**Stability:** White, single-scored tablets of 50 mg. and aqua tablets of 50 mg., in bottles of 100 and 1000. (B)46-230-D

For full details, please see the complete prescribing information.

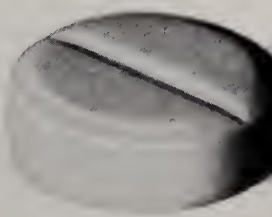
Geigy Pharmaceuticals  
Division of  
Geigy Chemical Corporation  
Kilby, New York

# Here's the Hygroton they don't have to halve



## New Hygroton 50 mg. from Geigy

# to go with the Hygroton 100 mg. you know




# When the agitated geriatric disrupts the home...

His teen-age  
granddaughter  
won't invite  
friends  
home  
because  
of his  
outbursts.



for moderate to severe anxiety

**Mellaril<sup>®</sup>**  
(thioridazine)  
25 mg. t.i.d. 

SANDOZ

**His slovenly room  
and habits create  
more tension.**

**His disturbances at  
the table make every  
meal a nightmare.**

**His daughter  
can't please him.  
There is "just no  
living with him."**

See following page for prescribing information.



## When the agitated geriatric disrupts the home...

Anxiety that seriously interferes with the individual's performance at work, at home, or in the community may be regarded as moderate to severe in degree.

Mellaril often recommends itself to the treatment of moderate to severe anxiety because it

- helps control the most frequent symptoms: marked tension, agitation, apprehension, restlessness, hypermotility
- often alleviates anxiety-induced somatic complaints
- frequently helps strengthen emotional resources
- helps the patient maintain realistic contact with environment, closer harmony with family

Thus, when you consider the anxiety moderate to severe... consider Mellaril.

**Contraindications:** Severely depressed or comatose states from any cause, and in association with or following MAO inhibitors; severe hypertensive or hypotensive heart disease.

**Precautions:** Hypersensitivity reactions (e.g., leukopenia, agranulocytosis) and convulsive seizures are infrequent. Pigmentary retinopathy has been observed where doses in excess of those recommended were used for long periods of time. May potentiate central nervous system depressants, atropine, and phosphorus insecticides. Where complete mental alertness is required, administer the drug cautiously and increase dosage gradually. In addition, orthostatic hypotension (especially in female patients) has been observed. Epinephrine should be avoided in treatment of drug-induced hypotension.

**Side Effects:** Pseudoparkinsonism and other extrapyramidal disorders are infrequent; drowsiness, especially in high doses early in treatment, may occur; nocturnal confusion, dryness of the mouth, nasal stuffiness, headache, peripheral edema, lactation, galactorrhea, and inhibition of ejaculation are noted on occasion; photosensitivity and other allergic skin reactions may occur but are extremely rare.

Before prescribing, see package insert for full product information.

for moderate to severe anxiety

**Mellaril<sup>®</sup>**  
(thioridazine)  
**25 mg. t.i.d.**



# mudrane<sup>®</sup>

for

- EMPHYSEMA
- ASTHMA
- CHRONIC BRONCHITIS
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*The  
fast-disintegrating  
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gives relief in  
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*Each tablet contains:*

Potassium Iodide..... 195 mg.  
Aminophylline..... 130 mg.  
Phenobarbital, Caution: May be habit forming... 21 mg.  
Ephedrine HCl..... 16 mg.

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**Precautions:** Usual for aminophylline-ephedrine-phenobarbital. Iodides may cause nausea, long use may cause goiter. Discontinue if symptoms of iodism develop.

Iodide contraindications: tuberculosis, pregnancy.

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One tablet, with full glass of  
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*Dispensed in bottles of 100 and 1000 tablets.*

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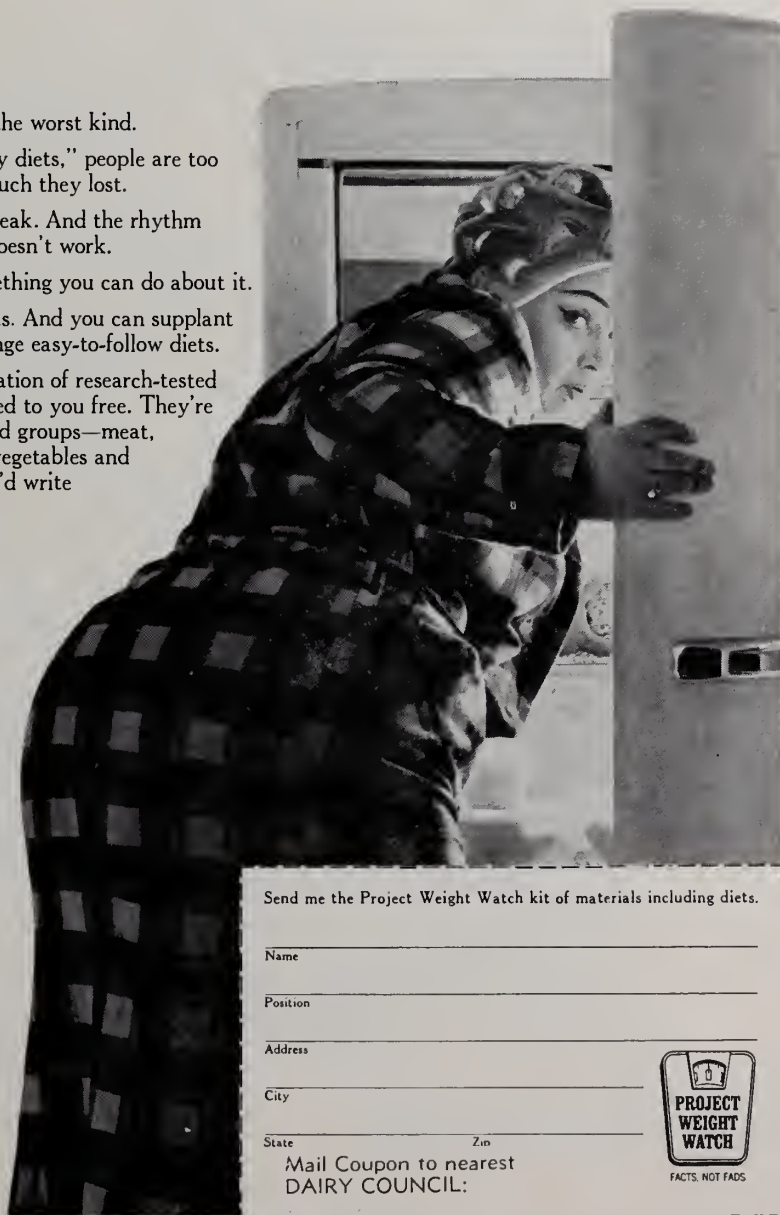
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*"George wants to know if it's okay to take his cold medicine now, Doctor, instead of seven o'clock?"*





The long-continued action of Novahistine LP should help you both get a good night's sleep. Two tablets in the morning and two in the evening will usually provide round-the-clock relief by helping clear congested air passages for freer breathing. Novahistine LP also helps restore normal mucus secretion and ciliary activity—normal physiologic defenses against infection of the respiratory tract. Use cautiously in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution ambulatory patients that drowsiness may result. Each Novahistine LP tablet contains: phenylephrine hydrochloride, 25 mg., and chlorpheniramine maleate, 4 mg.

## NOVAHISTINE® LP



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## DUAL PROBLEM IN PEPTIC ULCER

Relief of hyperacidity is still a primary goal in the treatment of peptic ulcer. And antacids are the most widely used means of achieving this relief. But antacids alone cannot influence the distention and bloating which so often add to ulcer distress.

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*the two most widely used antacids—magnesium and aluminum hydroxides—to help secure rapid acid neutralization with little chance of laxation or constipation;*

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antacid therapy plus an added benefit

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## Diagnosis:

**cystitis?**

**pyelonephritis?**

**pyelitis?**

**urethritis?**

**prostatitis?**

**in any case,**

**usually gram-negative\***

## Therapy:

**two 500 mg. Caplets® q.i.d.**  
(initial adult dose)

**Indications:** Urinary tract infections caused by gram-negative and some gram-positive organisms.

**Side effects:** Mainly mild, transient gastrointestinal disturbances; in occasional instances, drowsiness, fatigue, pruritus, rash, urticaria, mild eosinophilia, reversible subjective visual disturbances (overbrightness of lights, change in visual color perception, difficulty in focusing, decrease in visual acuity and double vision), and reversible photosensitivity reactions. Marked overdosage, coupled with certain predisposing factors, has produced brief convulsions in a few patients.

**Precautions:** As with all new drugs, blood and liver function tests are advisable during prolonged treatment. Pending further experience, like most chemotherapeutic agents, this drug should not be given in the first trimester of pregnancy. It must be used cautiously in patients with liver disease or severe impairment of kidney function. Because photosensitivity reactions have occurred in a small number of cases, patients should be cautioned to avoid unnecessary exposure to direct sunlight while receiving NegGram, and if a reaction occurs, therapy should be discontinued. The dosage recommended for adults and children should not arbitrarily be doubled unless under the careful supervision of a physician. Bacterial resistance may develop.

When testing the urine for glucose in patients receiving NegGram, Clinistix® reagent strips or Tes-Tape® should be used since other reagents give a false-positive reaction.

**Dosage:** Adults: Four Gm. daily by mouth (2 Caplets® of 500 mg. four times daily) for one to two weeks. Thereafter, if prolonged treatment is indicated, the dosage may be reduced to two Gm. daily. Children may be given approximately 25 mg. per pound of body weight per day, administered in divided doses. The dosage recommended above for adults and children should not arbitrarily be doubled unless under the careful supervision of a physician. Until further experience is gained, infants under 1 month should not be treated with the drug.

**How supplied:** Buff-colored, scored Caplets® of 500 mg. for adults, conveniently available in bottles of 56 (sufficient for one full week of therapy) and in bottles of 1000. 250 mg. for children, available in bottles of 56 and 1000.

**References:** (1) Based on 23 clinical papers, 1512 cases. Bibliography on request. (2) Bush, I. M., Orkin, L. A., and Winter, J. W., in Sylvester, J. C.: *Antimicrobial Agents and Chemotherapy* — 1964, Ann Arbor, American Society for Microbiology, 1965, p. 722.

# NegGram®

Brand of

## nalidixic acid

a specific anti-gram-negative

**eradicates most urinary tract infections...**

- Low incidence of untoward effects; no fungal overgrowth, crystalluria, ototoxic or nephrotoxic effects have been observed.

- "Excellent" or "good" response reported in *more than 2 out of 3* patients with either chronic or acute gram-negative infections.<sup>1</sup>

\*As many as 9 out of 10 urinary tract infections are now caused by gram-negative organisms: *E. coli*, *Klebsiella*, *Aerobacter*, *Proteus*, *Paracolon* or *Pseudomonas*²... However, infections of the urethra and prostate caused by non-gonococcal gram-negative organisms are believed to be less prevalent.

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*Guest Editorial . . . .*

Your Congressman and You

WHEN I was first elected to Congress, the annual Congressional Sessions usually lasted about six months and the Congressman was able to return to his Congressional District for the other half of the year to talk with his constituents and to learn their attitudes about the issues of the day. Now, Congress stays in session 10 or 11 months of each year. Days are longer and weeks more filled with Congressional duties making trips to and from the Congressional District less feasible. This is not a healthy situation, for a man cannot be the Representative of his people if he is unaware of their points of view.

This has made correspondence between constituent and Congressman all the more important. A letter is better than a phone call for it constitutes a written record for future reference. A personal letter written to a Congressman demands a personal reply and an unresponsive reply should never be accepted. It is important, however, to recognize that there are always two sides to every issue, that right and wrong are not always exclusively on one side or the other, that each bill may contain many component parts and a number of different philosophical issues, and a bill seldom becomes law in the same form in which it was introduced. In nearly all instances, statutes are the result of legislative compromise and it is impossible for a Congressman to commit himself positively in advance to support or oppose a bill identified simply by a catch title or bill number.

A letter to a Congressman should be brief, confined to one page if possible. Most members receive 100 or more letters every working day and

with committee meetings beginning at 10:00 in the morning and the House in session at noon, only two hours of the working day are available for dictating replies.

A constituent should confine his comments to one subject per letter. Such exclusive treatment underscores the importance the writer attaches to the subject and demands a responsive and definitive reply. Besides, a letter on a number of subjects knocks the daylight out of our filing system!

Nothing is more meaningless to a Congressman than a letter which simply says "support H.R. 1234" or "vote against S. 4321." A writer should outline his reasons for his position. You probably know a lot more about the practical effects than the Congressman, and he wants to know your reasons which will help him make his decision and defend that decision. A letter which simply demands support of or opposition to a particular bill identifies itself as being artificially inspired by some pressure group.

A Congressman is a human being, and most of them are earnestly trying to do the right thing. Don't insult him with promises or threats. A promise signifies the writer's belief that the Representative can be bought; a threat that he can be scared. Both are offensive. Both are self-defeating. However, constructive criticism is always appreciated.

Finally, a personal letter is so much better than a form letter or a signature on a petition. Many people will sign a petition without reading it just to avoid offending the person who is carrying the petition. Form letters are readily recognizable as such and register nothing more than the sentiments of the person who first prepared the form letter. Form letters receive form replies.

There is nothing more important than a stimulating dialogue between the Representative and those he represents. Today, the written word, the personal letter provides one of the best vehicles for the continuation of that dialogue.

RICHARD H. POFF  
6th Congressional District  
State of Virginia



# Facial Avulsion

## Case Report

ALBERT F. BORGES, M.D.  
Falls Church, Virginia

*A young man received as extensive a facial injury as one sees in a living patient when he was involved in an automobile accident. The final result of treatment was most satisfactory.*

THIS PRESENTATION involves a patient who sustained a ghastly partial avulsion of almost all soft tissues of the face compounded by fracture-dislocation of the upper portion of the facial skeleton.\*

On December 1, 1962, we were called to the Emergency Room of Fairfax Hospital to treat a 16-year-old boy admitted following an automobile accident. He had been a passenger in the front seat of a car whose driver fell asleep. As we entered the room (fig. 2), we saw this young male patient's face hanging down; he was able to breathe through an opening at the root of the nose. He was unresponsive but able to move all extremities.

The enormous avulsed-type of flap of soft tissue of the face involved the left eyebrow, left upper and lower eyelid skin, upper half of both cheeks, entire nose and lips (figs. 1, 3, 4). Other lacerations were present in the tongue, which had been detached from the anterior part of the floor of the mouth, upper lip, nasal tip, left cheek, right ear, left forearm, and right shoulder.

\*Case report No. 3, under category of "Facial Bone Fractures" submitted and approved by the American Board of Plastic Surgery, Inc., 1965-66.

A complete clinical pre-operative examination in search of signs and symptoms of facial bone fractures was practically impossible in this case. Nevertheless, the following could be noticed: the maxilla was free-floating, easily movable; the nasal bones and left zygoma were obviously depressed; the right zygoma was not displaced; and the mandible seemed not to be fractured. No other bodily injuries were detected. Roentgenographic examination showed no fracture of the skull or cervical spine. Roentgenogram of the facial bones confirmed the clinical impression.

Neurosurgical consultation by Dr. E. V. Castro concluded that the patient had "... brain concussion. From the neurological standpoint, the patient could have general anesthesia."

Ophthalmologic consultation by Dr. J. F. Hannon done during the surgical procedure "... revealed *the right eye* to be white and free of obvious trauma; ... the inferior orbital wall was fractured and depressed upward, but not markedly so. The medial wall was fractured and comminuted, along with massive destruction of the nasal anatomy. It would appear that the right eye was intact. ... *The left side* showed massive disruption of anatomical features. The lids were severed in blowout fashion, and the lash borders were attached to the eye structures and separated from the facial skin. The globe appeared intact, as did the muscle cone. ... Multiple foreign bodies of paint substance were noted throughout the orbital area, back almost to the orbital apex, and along with the paint, numerous comminuted bone fragments were seen. The possibility of an optic nerve severance or

severe trauma appeared to be tremendously high. The walls were fractured and depressed along with the other features noted elsewhere. . .”

*Indication for operation and choice of procedure:*

Presented herewith was a patient with multiple severe facial fractures and lacerations. After a complete evaluation of the patient to determine that he was in satisfactory condition for surgery, without severe enough neurological findings that would have taken precedence over any maxillo-facial surgery, a decision was made to proceed as follows:

Elective tracheotomy under local anesthesia to overcome the obstructed airway, to provide an efficient and convenient route for the administration of the anesthesia and to allow a satisfactory post-operative airway which would not be endangered by the intermaxillary fixation and nasal packing.

The facial fractures which consisted of (fig. 5) a Le Fort type III (craniofacial disjunction) on the left side, associated with a supraorbital rim fracture of the frontal bone and a Le Fort II (pyramidal) on the right side. These included fractures of the nasal bones, maxillas, left zygoma, bilateral lacrimal and ethmoid bones and bilateral floor of orbits. Most of the right zygomatic bone was intact and the mandible was also unharmed.

Reduction and immobilization of the facial fractures were planned by the application of upper and lower dental arch bars, intermaxillary rubber band fixation, and interosseous wire fixation of fractures of the left zygoma, right maxilla, left medial and left superior orbital rims, and medial and left lateral craniomaxillary internal wire suspension. The wounds were to be debrided conservatively and sutured meticulously.

*Operative technique (summarized):*

Following elective tracheotomy through a transverse low-neck incision, general anes-

thesia was administered through the tracheotomy canula.

With towel clips and small skin hooks, the skin flaps and border of lacerations were separated in order to expose the depth of the wounds. The entire face, inside and out, was thoroughly irrigated with room-temperature normal saline solution. Bleeding was controlled by first clamping the bleeding vessels and later tying with fine catgut ligatures those vessels that persisted in bleeding. The fractures were carefully identified, and an orderly plan for reduction and fixation to adjacent solid structures was undertaken. The displaced bones were reduced by manipulation and by traction with strong hooks.

The fractured facial bones were immobilized in the following fashion:

*Left superior orbital rim:* (fig. 5, e) The thin long bone fragment was fixed to the superciliary arch with a circumferential wire.

*Left zygomatic bone:* (fig. 5, f) A wire was passed through drill holes on each side of the fracture (one in the left zygomatic process of the frontal bone and the other in the frontal process of the zygoma) with both ends directed toward the temporal side of the zygoma. The wire was twisted, cut and pressed against the temporal side of the bone.

*Maxilla:* The free-floating maxilla was fixed by various means. Jelenko arch bars were placed in the upper and lower teeth. The teeth were brought into occlusion and fixed by intermaxillary rubber band traction. (fig. 5, a) The intact mandible and normal dental occlusal relation provided a guide for reduction of the fractured maxilla. Two craniofacial suspension internal wires were placed: one running from the glabella down the midline on each side of the septum and through the hard palate (fig. 5, c, g); another from the zygomatic process of the frontal bone through the soft tissue medial to the zygoma to the body of the left maxilla. These craniofacial suspension wires



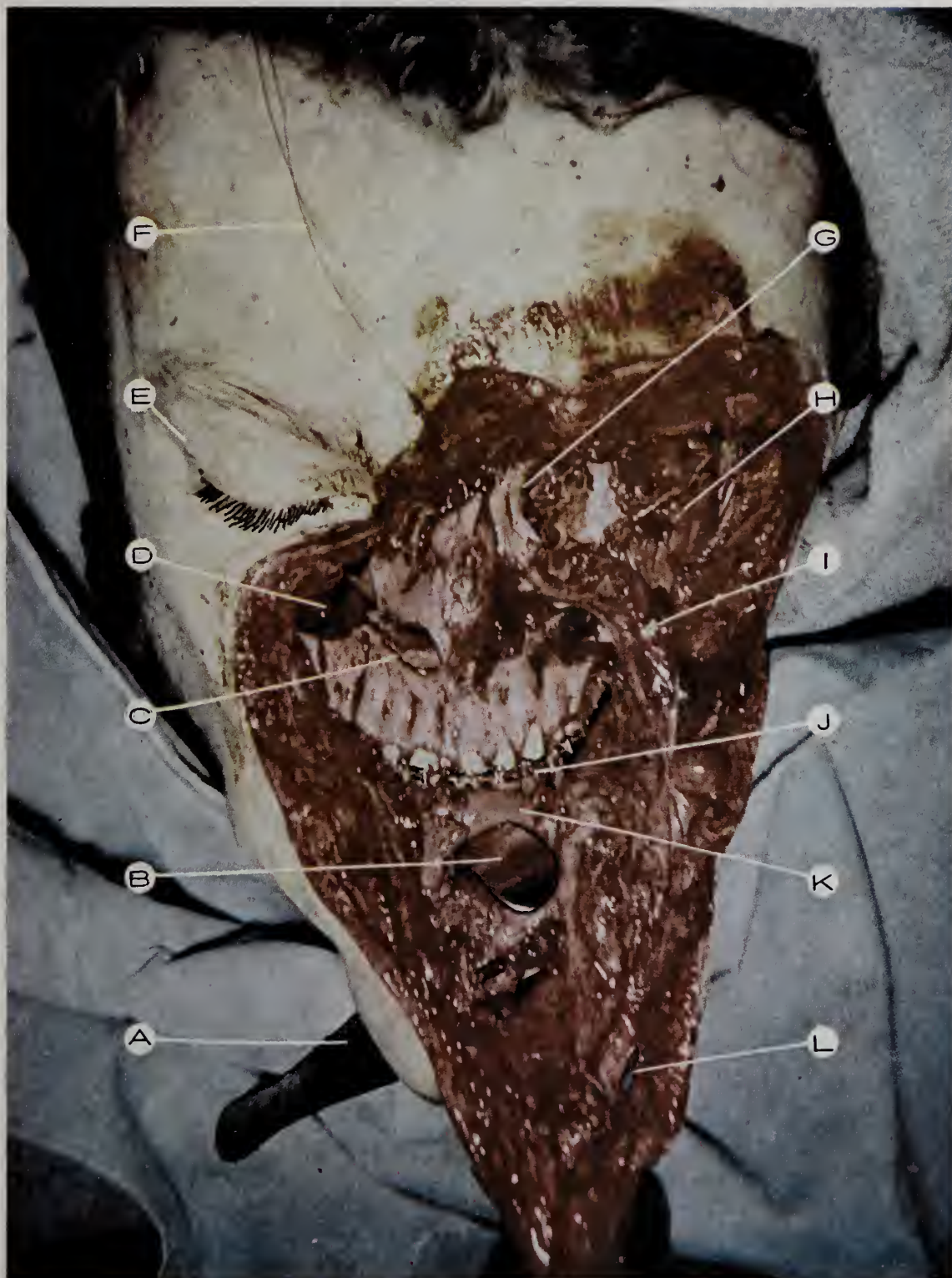


Fig. 1. Colored photograph taken *after* the fractured facial bones had been wired. (a) Tissue forceps passing through nostrils; (b) retractor inside oral fissure; (c) right maxillary fracture line; (d) right maxillary sinus; (e) right eyelid; (f) pull

wire; (g) everted left nasal bone; (h) left ocular muscles; (i) left superior orbital rim bony fragment attached to soft tissues; (j) dental arch bars; (k) out wire attached to medial craniofacial suspension vermilion of lower lip; (l) left eyelid fissure.



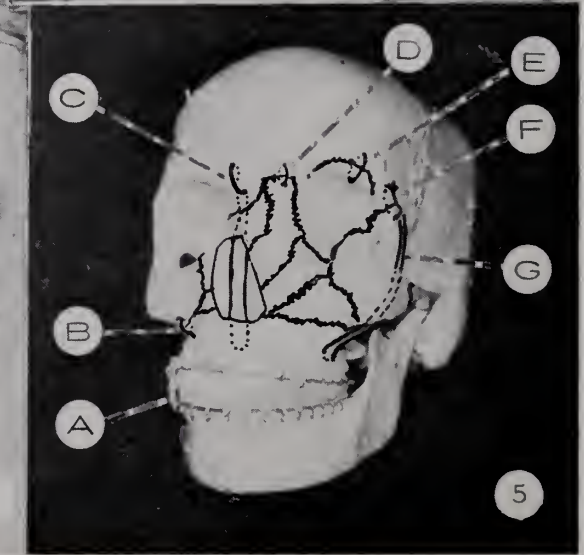
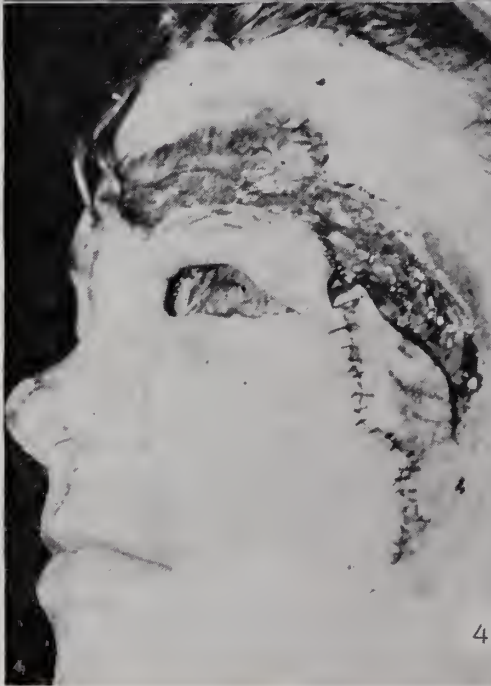
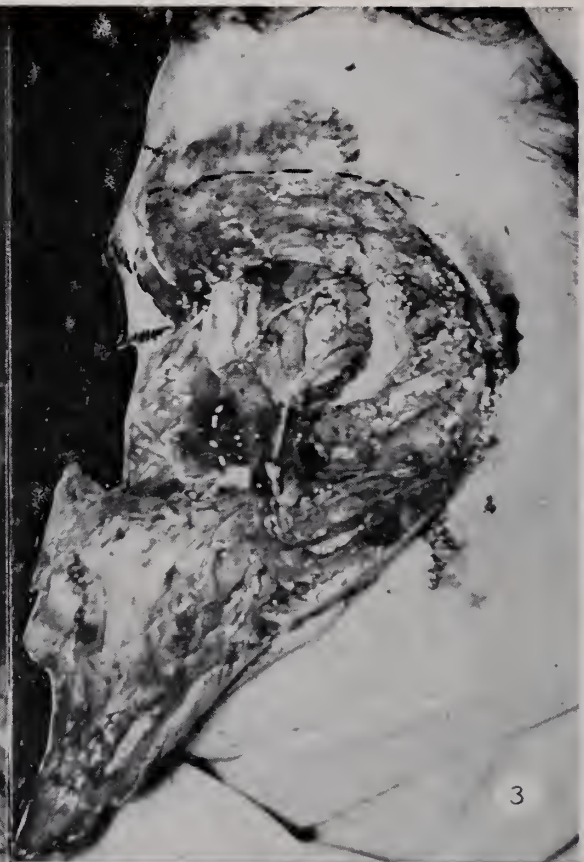


Fig. 2. Appearance of the patient when seen on the stretcher in the emergency room.

Fig. 3. Semi-profile view of avulsed soft tissue facial flap which spared only the right eyelids and part of forehead. This photograph was taken after the bones were immobilized by wiring.

Fig. 4. Photograph taken prior to suturing the large laceration and the skin of right eyelids.

Fig. 5. Diagram of multiple fractures of the middle third of face, including the maxilla, left zygoma, nasal, lacrimal and ethmoid bones with

involvement of the left frontal orbital rim. Treatment consisted of intermaxillary fixation by the use of dental arch bars and rubber band traction (a), open reduction, and interosseous wire fixation of the maxilla to the right zygoma (b), left medial (d) and left superior (e) orbital rims to the frontal bone, elevation of nasal bones fractures, fixation of fracture at the zygomatico-frontal suture line (f) on left and a medial craniomaxillary internal wire suspension (c) which has a pull out wire and a left lateral craniomaxillary internal wire suspension (g).

were supplemented by an interosseous wire fixation uniting the body of the right maxilla to the fixed body of the right zygomatic bone (fig. 5, b). A pull-out wire was placed through the superior loop of the midline craniofacial suspension wire in order to facilitate its removal at the termination of treatment.

*Orbital floors:* Both anterior walls of the right and left maxilla were comminutely fractured, and through this opening the maxillary antrum and floor of orbits were inspected. Fragments from the orbital floor that had fallen into the maxillary sinus were elevated into position and held by packing the sinus with ribbon-gauze impregnated with petrolatum. This was left protruding through the upper buccal sulcus above the bicuspid teeth.

*Left medial orbital rim:* (fig. 5, d) (frontal process of left maxilla and left lacrimal bone) A hole was drilled at the left side of the glabella and another through the segment of bone comprising the left medial orbital rim. They were wired together.

*Nasal bones:* Some large fragments of nasal bones were missing. Whatever remained had some soft tissue attachments and were just placed in the normal location and held up with vaseline impregnated ribbon-gauze intranasal packing.

*Right zygomatic bone:* Its main body was intact and not separated from the right zygomatic process of frontal bone nor the zygomatic process of the right temporal bone.

After the bones were immobilized by wiring and dental arch bars, the photograph on figure 1 was taken. Then adequate but conservative debridement was done on the soft tissues. The skin lacerations were sutured with 5-0 and 6-0 black braided silk sutures, in an interrupted and mattress fashion for perfect coaptation of wound edges. Anatomical landmarks and points of reference created by the wound's irregularities were first approximated. "Adaptic" bandage, gauze, adhesive tape and "Klin" bandage were placed over the sutured wounds.

After this first surgical intervention the following series of operations was undertaken to improve the facial scars, the deformed left eyelids, and to reconstruct the damaged left lacrimal ducts:

*December 20, 1962.* Removal of dental arch bars and medial craniofacial suspension wire; one Z-plasty over the right cheek U-shaped anti-tension line scar (fig. 6), and revision of adherent tracheotomy scar.

*March 1, 1963.* Facial scar revision including six Z-plasties: one on the right cheek, two medial to the right medial canthus, one on the forehead, left upper eyelid and left temple region. Post-operative photograph in fig. 7.

*April 8, 1963.* Facial scar revision including five more Z-plasties: two on the left upper eyelid, one on the left temporal region, one medial to the inner canthus of right eyelids, and one on the upper lip.

*April 29, 1963.* Facial scar revision including seven Z-plasties: four close to the medial left eyelid commissure, one on the lateral eyelid commissure, and two on the left cheek.

*July 31, 1963.* Large Z-plasty incorporating the left medial canthus; detachment of the internal palpebral ligament and reattachment at a higher level. See figure 8.

*Nov. 22, 1963.* Left lateral canthotomy, left medial canthoplasty, reconstruction of lacrimal canaliculus and dermabrasion of facial scars. Fig. 9 during surgery on the canaliculus.

*March 12, 1964.* Free skin graft to lower eyelid.

### Final Results

The only obvious imperfections that remain are those in the left eyelids (figs. 10 to 14). This is nevertheless only an esthetic deformity. His eyesight is good, there is no epiphora, no double vision, and no lagophthalmus.

Ophthalmologic examination by Dr. Han-



non on July 12, 1963, states that "Both lacrimal canaliculi were open, and irrigation into the nasopharynx was performed on both sides with ease. The right eye vision was 20/20 and the left eye vision was 20/20. A dilated ophthalmoscopic examination was

out permanent damage to his eyes or any facial paralysis or extensive slough of soft tissue.

### Summary

A case is presented of a young male pa-



Fig. 6. Ten days after initial treatment. The pull out wire can be seen (arrow). The planned Z-plasty on the right cheek has been drawn prior to the first scar revision procedure.

Fig. 7. Photograph taken after the surgery on March 1, 1963, when six Z-plasties had been performed.

Fig. 8. The medial canthus has improved as compared to Figure 7 following surgery on July 31, 1963, but the lack of tissue on the lower border

of the lacrimal lake still gave rise to occasional epiphora.

Fig. 9. Large Z-plasty of tissue which will transpose a skin flap from the upper eyelid to the lower eyelid and will also raise the entire medial commissure. The vinyl tubing can be seen entering the punctum at the lacrimal papilla and passing through the lower canaliculus into the lacrimal sac.

completely normal. Cyclogel refraction revealed simple hyperopia in each eye, not necessitating any correction with glasses."

The patient is satisfied, and I do not contemplate any further surgery. Undoubtedly this is a very lucky man, to have undergone such a terrible facial laceration with-

tient who received a blow above the level of the nasal spine which resulted in compound comminuted fractures of the zygomatic, nasal, lacrimal, ethmoid and maxilla areas (craniofacial disjunction) with an extensive avulsed-type laceration of his face, as extensive a facial injury as one sees with



a living patient. In the acute stage he was treated by reduction and interosseous wire fixation of multiple bone fragments, and

injuries. Subsequent surgical procedures improved the facial scars, reconstructed the lacrimal ducts and improved the deformed



Fig. 10. Appearance of patient at the completion of treatment. Patient has his mouth open and eyelids closed.

Fig. 11. Frontal view of patient with eyes opened and mouth closed.

Fig. 12. Frontal view of teeth showing the dental occlusion following treatment.

Fig. 13. Right profile view.

Fig. 14. Left semi-profile view.

craniomaxillary suspension with internal wire fixation and repair of the soft tissue

left eyelids. The final result, although not perfect, was most satisfactory.

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# Community Medical Needs in Virginia

A Survey Sponsored by the Virginia Academy of General Practice

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JAMES P. CHARLTON, M.D.  
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*An interesting and realistic study of the medical needs of the community.*

ON BEGINNING this article, the reader is respectfully requested to divest himself of any personal bias regarding town, gown, specialism, or family practice.

Without question the people of this nation, including Virginians, are already waist-deep in planning the future of medical services in our society. Witness the Medicare Act, Title 19, Cancer-Heart-Stroke, and Virginia's PKU Bill. It makes no real difference whether physicians—individually or collectively—consider this planning and lawmaking proper. There are truly only two alternatives for Medicine: 1. To influence these bills as much as possible for the benefit of patients and physicians alike, or 2. to be ignored. An example of the possibility for influencing legislation is the Heart-Cancer-Stroke program which was transformed by physicians from an ill-conceived dream of a federal medical dynasty to a useful, locally-sponsored program for improving continuing education. Refreshingly, this end was accomplished by cooperation of town, gown, specialist, and family physician.

Inevitably, planners of the future of medicine are turning to the basic questions of logistics. How many researchers, cardiac surgeons, pathologists, etc. will be needed in the future? What proportion of available physicians should be teaching, research-

ing, practicing? Is there really a need for so-called primary or family physicians? The answer to these questions will only be found by an accurate determination of the specific medical needs of our society.

The Virginia Academy of General Practice in February, 1967, conducted a survey to determine if it is feasible to predict and define the total spectrum of medical needs of Virginia communities; and to see if there is any correlation in the proportion of various medical conditions seen in rural, urban, and suburban areas, and by physicians in various age groups.

This study is presented as a Pilot Study. It covers a one week capitulation of the practices of twenty-three physicians and includes a total of 4,429 patients. The sample of physicians is from widely scattered areas of Virginia, and was carefully weighed in proportion to the total number of physicians practicing in rural, urban, and suburban areas.

Each subgroup was weighed to conform to the various age groups of physicians. In spite of the relatively small sample of physicians, and the confinement of this study to one season, the results of all groups fit a strikingly similar pattern.

Figure 1 is a graphic comparison on a basis of type of community. Immediately it is apparent that the pattern is almost identical. One hundred patients in Galax had the same spectrum of medical conditions as a hundred in Arlington or Roanoke.

Figure 2 compares practice patterns on a basis of physician ages. Here there is practically no deviation from the pattern established in Figure 1.



Community Medical Needs in Virginia  
Fig. #1

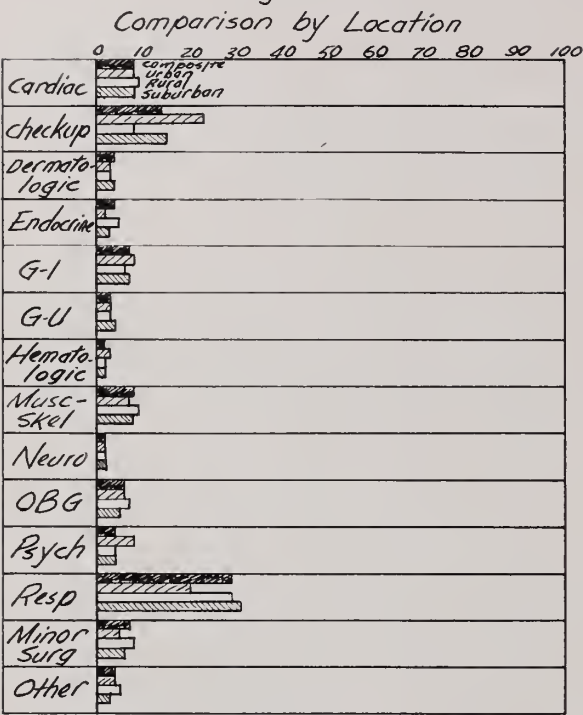


Figure 3 shows an almost identical percentage of pediatric, adult, and geriatric patients for all age groups and all locations.

Community Medical Needs in Virginia  
Fig. #3

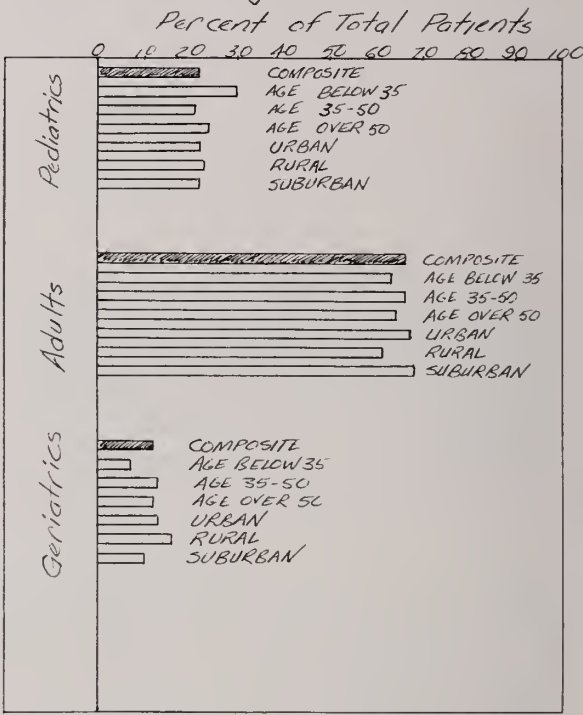
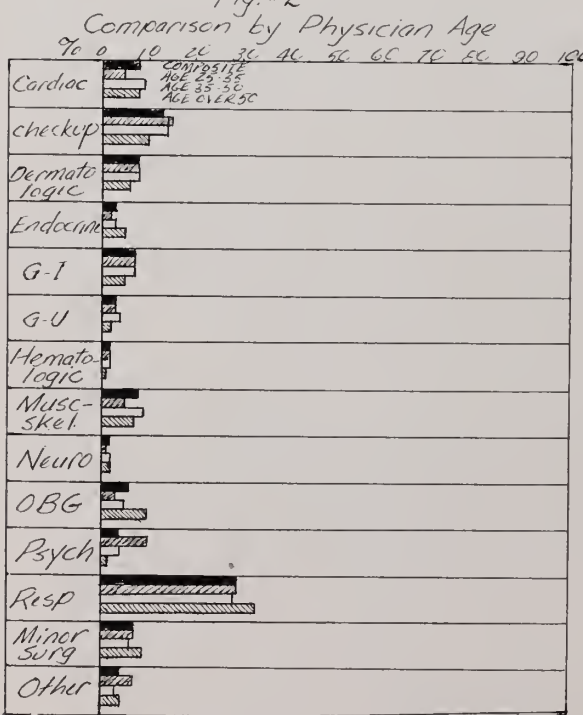
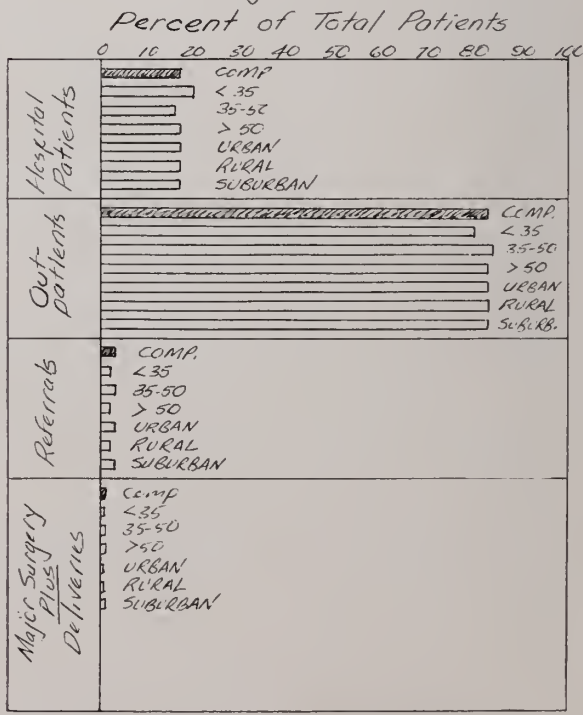


Figure 4 establishes the relative proportions of hospitalized patient visits to out-patient visits, the latter making up almost

Community Medical Needs in Virginia  
Fig. #2



Community Medical Needs in Virginia  
Fig. #4



an exact 83% regardless of community types or physician age. Significant indeed is the steady 3% of patients which were referred. A somewhat similar study done at the University of Kentucky listed 3.7% referrals. Major surgery and obstetrics obviously comprise an extremely minor part of family practice as it exists in Virginia in 1967.

Additional figures show the average number of patients seen per physician per week to be 192. On the basis of the approximately 1,250 physicians listed as doing "General Practice" in Virginia, the total patient load is approximately twelve million patient visits per year.

### Conclusions

(1) Plans for the future of medicine, including federal programs and the orientation of medical education should be based on the actual medical needs of the community.

(2) This study indicates that it is perfectly feasible to predict the total medical needs of our population.

(3) Although the callings of research and super-subspecialties are exotic and more applicable to federal grants and TV Programs, the fact is that a tremendous mass of less colorful medical work must be provided for in the future.

(4) This study corroborates the opinions expressed by the Millis Report, the AMA ad hoc committee, etc., which indicate a need for some physicians to be trained to:

- (a) Provide a mass of minor medical services efficiently and at a reasonable cost
- (b) Screen all patients for signs of major disease
- (c) Refer patients when necessary
- (d) Provide continuing preventive care for our people.

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### Infant Death Rate Continues Decline

The nation's infant death rate continued to decline during the first half of this year, according to the National Center for Health Statistics.

The rate (the number of deaths of children under one year per 1,000 live births) went to a new low of 22.9 in the first six months of 1967.

There has been a decline every year since 1958, except 1962 when the rate remained constant. From 1958 to 1966 the infant death rate dropped from 27.1 to 23.4 per thousand, a decline of 13.7 per cent.

Government officials predict the death rate will continue to drop in coming years. As factors they cite:

—Increased family income, bringing better nutrition and health care.

—Increased emphasis on early access to high-quality medical care.

—Greater availability of prenatal medical services.

—The spread of family-planning services.

—A higher level of education.

Influenza and pneumonia (except pneumonia of the newborn) were the only causes of death among infants that declined markedly during the first half of 1967, compared to the same period in 1966. The decline from other causes of death was slight, but general.

# Congenital Syphilis: A Continuing Problem

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*Between the years 1957 and 1963, there was an alarming increase in the incidence of congenital syphilis. This preventable disease continues to be a problem and must be considered a diagnostic possibility.*

ALTHOUGH ENTIRELY PREVENTABLE, syphilis continues to plague the State of Virginia and the remainder of the United States and, in spite of compulsory serologic screening of pregnant women, congenital syphilis is once again a significant problem. In particular, the recent emphasis in the medical literature on congenital rubella and its multiplicity of signs in the neonate has often repressed consideration of congenital lues as a diagnostic possibility. The following case reports of two infants seen recently at the University of Virginia Hospital serve to illustrate these points.

*Case One.* This 2,200 gram two day old white male was referred to this hospital because of jaundice and fever. He was the tenth child born to a thirty-one year old presumably healthy female. Delivery was complicated by a "mild abruptio placenta", and occurred after thirty-five weeks gestation. The one minute Apgar score was ten. Blood loss at delivery was not known.

The child did well initially, but at age twenty-four to thirty-six hours he developed a fever of 102.2 degrees and some cya-

nosis. He continued to be febrile and at age forty-two hours jaundice was noted. At that time total bilirubin was 17.2 mg.% and the hemoglobin was 13.6 gm.%. WBC was 23,000 per mm.<sup>3</sup> Penicillin therapy was instituted and the infant was referred to the University Hospital on October 25, 1965.

On admission he was jaundiced but alert and active. The liver was 1½ cm. below the right costal margin and the spleen was 2½ cm. below the left costal margin. There was a good Moro and suck reflex. The cry was weak.

Admission hematocrit was 45% and hemoglobin was 13.3 gm.%; reticulocyte count was 6.1%. Urine initially revealed eight to ten white blood cells per high power field with two plus bile. Culture of this urine was subsequently negative. Blood culture on admission was positive for *E. coli*. Initial bilirubin determination revealed a total of 15.0 mg.% with a direct of 1.4 mg.%. Direct and indirect Coombs tests were negative. The baby's blood type was A, Rh negative and the mother's was A, Rh positive. Peripheral blood smear revealed increased polychromasia with fifteen nucleated red blood cells per one hundred nucleated cells, a few spherocytes, and occasional myelocytes and juveniles. White blood count was 30,000 mm<sup>3</sup>. The infant was placed on penicillin and kanamycin with a presumptive diagnosis of sepsis. Because of the striking hepatosplenomegaly, blood was drawn for toxoplasma and rubella antibody titers and urine sediment was examined for cytomegalic inclusions. These tests all were reported as negative, subsequently.

The day following admission the total bilirubin was 20.7 mg.% with a direct of

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1.7 mg.% and an exchange transfusion was carried out.

Concern initially was directed towards the probable sepsis and it was not until two days following admission that serology was obtained on both mother's and infant's blood. VDRL on the mother was three plus in 1:16 dilution with reactive Reiter protein and the baby was three plus in 1:256 dilution with reactive Reiter protein. Serology was negative on the donor blood used in the exchange transfusion. X-rays of the long bones revealed periostitis and metaphyseal lucencies compatible with congenital lues (Fig. 1).

At six days of age, four days after penicillin had been instituted, the infant began developing numerous umbilicated vesicles over the entire body. As these spread they assumed the characteristics of herpes simplex and gamma globulin was administered. Subsequent titer determination and cultures failed to confirm the diagnosis of herpes virus infection, and the lesions regressed during the third week of life. In retrospect, this rash was probably the pemphigoid rash of syphilis.

The baby did well, and he was discharged on the thirty-ninth hospital day. In April, 1966, the VDRL was reported as "reactive".

*Case Two.* This child was the 2,620 gram female product of an eight month pregnancy and breech delivery to a twenty-five year old colored female who had previously delivered five healthy infants. Spontaneous respirations occurred, but moderate respiratory distress and cyanosis were immediately apparent. Fine rales were noted bilaterally. A shiny, exfoliating membrane covered the infant, typical of the "Collodion Skin" of lamellar ichthyosis of the newborn, although there were no other stigmata present to suggest this condition.

She was placed in an isolette and oxygen, penicillin, and kanamycin were begun immediately. At that time a chest film was normal. The hematocrit was 46%.

The mother's VDRL was three plus reac-

tive in 1:32 dilution and the child's was three plus in 1:64 dilution. Long bone films were compatible with congenital lues (Fig.

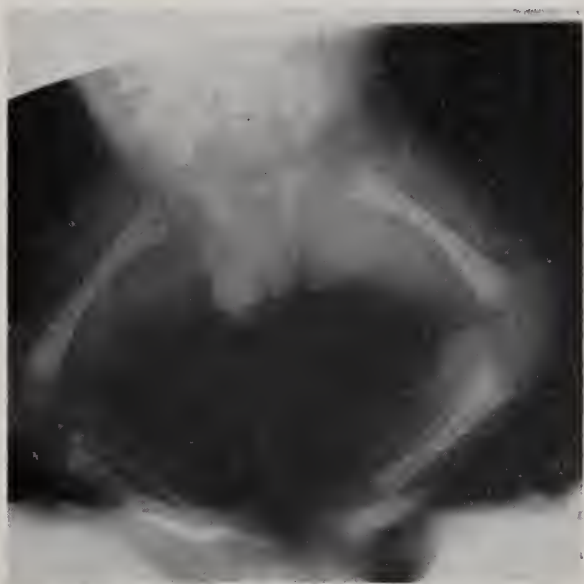


Fig. 1a



Fig. 1b

Fig. 1 (a and b) X-rays of extremities of Case 1 showing extensive metaphyseal rarefactions of radius, ulna, femur, tibia and fibula. Also, periosteal elevation is apparent in the proximal left femur.

2). Fluorescent treponema antibodies were positive on both the mother and infant.

The child recovered from the brief episode of respiratory distress but was then noted to become clinically jaundiced. Neither the liver nor the spleen were enlarged. On the fifth day of life bilirubin was 9.1 mg.%. Direct and indirect Coombs tests were negative. Both mother and infant were type B, Rh positive. Urine and blood cultures were negative. Liver studies, however, revealed a cephalin flocculation of three



Fig. 2. X-ray of lower extremities of Case 2 showing metaphyseal radiolucencies in the distal femurs and periosteal elevation along femurs.

plus, thymol turbidity of 190 units, SGOT of 140 units and SGPT of 64 units. Reticulocyte count was 0.8%. The infant ate reasonably well but weight gain was below par. The jaundice slowly faded.

A full therapeutic course of penicillin was accomplished and repeat liver function studies toward the end of her hospitalization were somewhat improved. X-rays revealed the bony changes to be resolving.

The hematocrit fell steadily throughout the hospitalization and was 26% on the day of discharge which was on the thirty-fifth day of life.

Follow-up in the clinic at seven weeks of age revealed a hematocrit of 25% and a hemoglobin of 8.2 gm.% with microcytosis on the peripheral smear. Liver function studies were normal at that time. The infant was treated with intramuscular iron and a week later the child had a reticulocytosis which was felt to reflect a satisfactory

response to iron therapy. VDRL and Reiter protein continued to be reactive.

### Comment

These two cases have been presented to call attention to the fact that prenatal lues continues to be a not uncommon problem.<sup>1,2,3</sup> It is pertinent to point out that the signs and symptoms of early congenital syphilis are often not pathognomonic and that the diagnosis may be delayed or even missed if the examiner does not include this disease in his differential diagnosis. Hepatosplenomegaly and jaundice are found in many other conditions, notably the rubella syndrome, cytomegalic inclusion disease, toxoplasmosis, bacterial sepsis, and hemolytic disease of the newborn. Pneumonia is not infrequently seen in early congenital lues and also may often be found in the above conditions. The bony changes which include osteochondritis and periostitis may be confused with those occurring in the rubella syndrome.<sup>4</sup> However, periostitis or subperiosteal new bone formation is rarely seen in rubella and may serve as a suggestive differential diagnostic point in infants less than one month of age.<sup>5</sup>

The incidence of congenital syphilis rose at an alarming rate on a nationwide basis from 1957-1963. The number of cases reported under one year of age in 1963 (410) represents a greater than 150% increase over that seen in 1957.<sup>6</sup> That the incidence decreased slightly and then leveled off in 1964 and 1965 reflects credit on the health agencies and physicians responsible for the recognition and control of the disease.

During the time that the number of cases was rising nationally, Virginia reported a relatively constant number of cases. The case incidence in Virginia has decreased since 1962 and, in 1965, one hundred and nineteen cases were reported *for all ages*. This compares with 3,505 cases of all ages reported nationally.

As mentioned earlier, congenital syphilis is preventable. Treatment of the mother

before the eighteenth week of pregnancy prevents the disease (if subsequent reinfection does not occur) and treatment anytime thereafter prior to delivery cures the infant in utero. However, it must be recognized to be treated.

In the instance when the mother is a seropositive treated syphilitic the infant may well have a positive VDRL at birth secondary to placental transfer of the antibody. In this case the titer must be followed over several months to prove, in fact, that the infant does not have the disease. This is evident as the titer gradually falls.

For those infants born with syphilis, the recommended treatment is 100,000 units/kg. of aqueous procaine penicillin G divided into ten equal daily doses. Ninety per cent of the infants so treated will be seronegative within one year if treated before the age of two years. If treatment is accomplished thereafter, the disease may be cured but the serology may never become negative. If treatment before the age of one year fails to cause serologic reversal within two years, some authors suggest another course of treatment.<sup>7</sup>

### Summary

Two cases of congenital syphilis are dis-

cussed. Case rate in Virginia and nationally are noted and recommended treatment is mentioned. Until eradication is accomplished through prompt diagnosis of syphilis in the adult, diligent case reporting, and utilization of government health agencies in case finding, all physicians caring for newborn infants should continue to include congenital syphilis as a diagnostic possibility.

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### Let's Reminisce!

*Transaction of The Medical Society of Virginia 1876 meeting.*

While upon the floor, Dr. McDonald remarked, in reference to the plan of administering chloroform that he had found a lady's starched cuff the most convenient inhaler in all respects—better even than the folded napkin.



# Alternatives to the Use of Vasopressors

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*The proper treatment for hypotension is determined by the underlying disturbance of which the low arterial pressure is a sign.*

SEVERAL CONSIDERATIONS must be reviewed before selecting some fundamental alternatives to the use of vasopressors in hypotension. For arterial hypotension, from a variety of causes, a discrete use of the specifically indicated vasoconstrictor may be the treatment of choice. For shock, however, the use of any vasoconstrictors may be entirely inappropriate and detrimental to the chances of survival, according to Freedman in 1951<sup>1</sup> and Nickerson in 1963,<sup>2</sup> etc. It is therefore important, initially, to differentiate between:

- A. The more benign hypotensive states per se.
- B. The ominous syndrome of shock, frequently characterized, among other things, by chronic and irreversible hypotension with subsequent, intracitable visceral ischemia.

Each situation requires a different therapeutic approach, though both situations are potentially within the therapeutic domain of the sympathomimetic drugs.

## Vasopressors

Recent investigations as to the effects of the adrenergic amines on the vascular sys-

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From the Department of Anesthesiology, Medical College of Virginia, Richmond.

Presented at Virginia Society of Anesthesiologists in Williamsburg, November 6, 1966.

tem, however, have given rise to some dissatisfaction, basically, with certain aspects of this entire therapeutic approach.

Corday and Williams in 1960 showed how the adrenergic amines in hypotensive states, initially, may increase cardiac output, but will then subsequently decrease cardiac output, increase peripheral resistance, decrease peripheral perfusion, increase metabolic acidosis and decrease circulating blood volume and will finally decrease arterial blood pressure as the acidotic micro-circulation loses its ability to constrict.<sup>3</sup>

Gregg<sup>4</sup> and later Waldhausen<sup>5</sup> in 1965 showed that the effect of the catecholamines is associated with a decrease of myocardial efficiency due to excess fuel and oxygen consumption.

Levarteranol, described in 1965 at the Hahnemann Symposium, as the ideal vasopressor,<sup>6</sup> has been challenged in this role by the work of Bloch, Pierce and Lihellei<sup>7</sup> in 1965, Smulyan<sup>8</sup> in 1964 and Fine<sup>9</sup> in 1964, who corroborated the findings of Corday and Williams outlined above.

The accompanying bradycardia which reflexly pursues the action of this drug and metaraminol, eventually decreases cardiac output and increases cardiac metabolism.

Almost all the vasopressor amines cause pulmonary hypertension due to pulmonary congestion. Methoxamine and Phenylephrine decrease pulmonary blood pressure but cause intense vasoconstriction, generally, elsewhere.

## Pathophysiology

In both situations, A and B, mentioned, the real problem is one of poor perfusion. The low arterial pressure registered on the sphygmomanometer is only the apparent problem.

The first situation is generally brought about by inadequate cardiac output due to arrhythmias, drug depression, etc., or due to poor venous return from a dilated peripheral circulation, which may, of itself, be also, due to drug depression or iatrogenic sympathetic blockade. Essentially, this problem will either be adequately handled by the patient's own baroreceptor triggered, adrenergic response, or by transient volume expansion by the physician.

The second situation, namely, that of shock, may be brought about by inadequate or inappropriate treatment of the first situation, by the physician, i.e., premature or excessive use of vasopressor amines or, more commonly, will arise from the prolonged and persistent attempts of the patient's own sympathetic nervous system to correct abnormal deficiencies in blood volume or cardiac pumping ability.

The endogenous, adrenergic response to moderate deficiencies in blood volume, or myocardial pumping ability is appropriate and effective herein, namely, selective arteriolar vasoconstriction with autotransfusion from the capacitance vessels. This is the traditional alpha-receptor, constrictor response, augmented to a lesser extent by the ionotropic and chronotropic facets of the beta response described by Alquist.

Blood pressure is used by the Baroreceptor mechanisms as the key to circulatory adequacy and is the trigger for this response. It is satisfactory in the case of moderate deficiencies.

However, major losses of blood volume or in pumping ability render the adrenergic response inappropriate and inadequate.

Intended for the short term restitution of blood pressure, persistence of this endogenous therapeutic milieu will lead to ischemia and anoxia in the vital splanchnic and tissue circulatory beds.

Unfortunately, the tendency is still prevalent among physicians to equate adequate tissue perfusion with arterial blood pressure rather than with blood flow. Hence the all

prevailing tendency to use vasopressor drugs to treat all hypotensive states.

## Blood Pressure

Blood pressure is not a primary circulatory function. As Rushmer in 1955 and later Moulopoulos in 1963 have stated, "the heart is a positive displacement or volume pump and not a constant pressure pump."<sup>10,11</sup>

Nickerson and Gourzis<sup>2,12</sup> stated that if the systolic blood pressure registers 50 to 80 mm. Hg. in the presence of vasodilation with adequate fluid volume, that this situation is compatible with prolonged survival.

Again, Dr. Hale Enderby of the East Grinstead Plastic Unit near London,<sup>13</sup> reporting at the International Symposium at the Manhattan Eye and Ear Hospital in 1965, described the use of deliberate hypotensive anesthesia in six thousand cases without mortality. Systolic arterial blood pressure in these cases ranged from 60 to 80 mm. Hg.

Vasodilation with a concomitant decrease in blood volume is, of course, extremely dangerous. This is what the adrenergic compensatory mechanism endeavors to avoid in the transitory hypotensive state.

As an alternative to peripheral vasoconstriction, and to centralize blood volume, we can temporarily expand circulating fluid volume and thus maintain adequate peripheral perfusion. This obviates a necessity of the transient tissue ischemia characteristically accompanying increased endogenous or exogenous adrenergic activity in the hypovolemic state.

Thus Nickerson<sup>14</sup> stated that 75% of hypotensive cases would respond satisfactorily and sufficiently with fluid replacement.

Even in the case of myocardial infarction with so called (pseudoshock), alluded to by Cohn and Luria in 1964<sup>15</sup> and later Weil<sup>16</sup> in 1965, careful fluid therapy with digitalis will maintain and sustain cardiac output and adequate peripheral perfusion, with

eventual symptomatic improvement and recovery.

What do we measure when we measure the arterial blood pressure? Arterial pressure is brought about by three primary functions:

1. The amount of blood displaced by the cardiac pump into the aorta.
2. Arterial elasticity.
3. Arteriolar resistance (to run off) or more simply, pressure equals flow multiplied by resistance. ( $P = F \times R$ )

However identical arterial pressures can be achieved with:

- A. High cardiac output and low arteriolar resistance.
- B. Low cardiac output and high arteriolar resistance. Thus the blood pressure per se is not an index of circulatory adequacy. Neither is cardiac output a final index of an adequate circulation.

A balance between, output, resistance, pressure and venous flow, must be achieved in order to preserve or restore vasodynamics stability.

As many competent reports have indicated monitoring central venous pressure in the poor risk patient or those undergoing extensive surgery is mandatory. Simply, placement of a plastic catheter in the external jugular vein will help to evaluate fluid replacement therapy, and cardiac competency in all such cases.

Shock may be present with or without hypotension. Only when adrenergic mechanisms are insufficient to compensate for losses in effective circulating blood volume and in cases of reduced myocardial contractility does hypotension occur. As Lillehei has stated in 1964, a state of reduced tissue perfusion often exists before hypotension is determined.<sup>17</sup>

### Primary Hypotensive States

Conversely hypotension may occur without inferring the existence of shock. Pri-

mary hypotensive states such as syncope, postural hypotension or the fall in blood pressure that may accompany the use of Halothane or spinal anesthesia or reduced cardiac output from arrhythmias, are not shock, initially, but transient states of vasodilation, easily balanced with appropriate fluid, steroid and cardiogenic drug therapy.

### Spinals

The prophylactic injection of vasopressors for the prevention of hypotension, has been practiced for sometime now, with spinal and epidural anesthesia. Dripps and Deming<sup>18</sup> reported a 60 to 90% incidence of hypotension in the group of untreated patients in 1946.

In 1960, Collins et al.<sup>19</sup> published a similar study. Both groups advocated the use of vasopressors prior to the injection of the spinal anesthetic. However, and more recently, rapid hydration, with isotonic fluids seems to offer a more satisfactory alternative approach where hypotension is not marked or protracted.

In obstetrics the combination of oxytocics and pressor drugs may produce severe hypertension.

### Drug Overdose

Again, hypotension due to overdose of drugs is not uncommon. In combination with the general anesthetics which depress myocardial contractility and circulatory reflexes, the synthetic narcotics, barbiturates, used as premedication drugs or on induction, may lead to severe hypotension. In these instances and where there is a drop in systolic pressure greater than 20% of the preinduction pressure, the rapid infusion of plasma expanders should resolve this problem.

This is illustrated in an interesting report, from Dr. Barraclough of St. Thomas' Hospital, London, that explains the effect of alcohol, barbiturates, psychotherapeutic drugs on circulatory reflexes. A number of patients were treated for acute interruption



of the baroreceptor compensatory reflex mechanism. Or in simple terminology, neurogenic hypotension. It is interesting to observe the failure of vasopressor amine therapy in one of the patients in this series. In discussing these cases (Dr. Barraclough stated) "some will wish to treat hypotension produced by a drug with another drug. There are several potent vasoconstrictors substances available. All these substances, however, have an action on peripheral arterioles, and interfere with therapeutic response in an unpredictable manner." Dr. Barraclough went on to state that "these drugs which are constrictive to arteries may preferentially reduce blood flow in certain areas and so prove deleterious."<sup>20</sup>

Antihypertensive drugs and Reserpine and the Rauwolfia Alkaloids, Guanethidine, etc., which deplete the Norepinephrin stores in the adrenergic nerve terminals will diminish the activity of the indirect acting pressor amines, and may produce severe hypotension under anesthesia as shown by Dingle.<sup>21</sup> According to a recent and interesting report from Australia,<sup>22</sup> October 1966, this situation should not be countered by using dominate direct acting amines such as methoxamine, phenylephrin, Norepinephrin or Epinephrin, as in the patient subjected to antihypertensive drug therapy, there is increased and persistent sensitivity to the catecholamines. These drugs should be used with caution or fulminating hypertension with cerebral vascular accident may occur as in the report mentioned. A more appropriate form of therapy in this situation would be adequate fluid volume replacement as recommended by Moyer in the Hahnemann Symposium in 1961.

### Cardiac Arrhythmias

Cardiac arrhythmias will cause hypotension, such as the paroxysmal tachycardias, etc. They produce circulatory shock by limiting the diastolic filling time of the ventricles. If the arrhythmias persist they can cause not only hypotension, but also de-

creased blood flow, anginal pain, or heart failure. Quinidine, Pronestyl or Dilantin would be the drugs of choice under these circumstances.

Vagal stimulation often terminates tachycardias of supraventricular origin.

Some vasopressors are reported to have value in these instances. The point is debatable. Mephentermine or Wyamine has inherent antiarrhythmic tendencies. According to recent reports the action of this drug is mostly central in effect, initially. It does, however, have a potent alpha stimulator effect as time progresses and with increased dosage as was reported by Li and Etsten in 1962.<sup>23</sup>

Indeed all sympathomimetic drugs cause increased cardiac work according to Aviado, and thus may not be beneficial in these instances.<sup>24</sup>

Gregg and later Waldhausen showed that as nutrient demands increase the heart shifts to anerobic or glycolytic metabolism with subsequent production of lactic acid, local acidosis and decreased contractility.

Bloch, Pierce, and Lillehei, among others, have shown how vasopressor amines increase the external work of the heart.

### Pulmonary Embolus

Again a common source of the ritualistic treatment of hypotension is in pulmonary embolism. There have been 11,338 cases published since Harvey's first report in 1628. With mortality figures recently described by Gross in 1960<sup>25</sup> being as high as 60%, this is an area of some concern to the physicians involved. Here we have right sided heart strain, acute corpulmonale. It is of some importance to maintain cardiopulmonary tonicity in these cases. Hypotension may be severe. Later the general state may be one of shock. Due to the mechanical obstruction imposed by the embolus, cardiac output is decreased. Time is a very important factor, especially if the embolus is large or multiple. There is no satisfactory medical treatment of lasting benefit. Embolectomy must be attempted early if at all.

Several recent reports illustrate the nature of the problem. Stoney, et al.,<sup>26</sup> in 1963 reported that half the patients, who died in hospital of massive pulmonary embolus, lived long enough for embolectomy to have been carried out.

Among other useless ritualistic or even harmful drugs which have been used here, vasopressor amines stand foremost. Levophed and Aramine compound the problem, Neosynephrin grossly so. These drugs throw further work load on the heart, increasing metabolic demand in a failing right heart, intensifying peripheral vasoconstriction in an already constricted peripheral circulation and increasing pulmonary hypertension in the presence of an obstructed, constricted, failing circulation.

In summary the ideal treatment here, proposed by Robert Marshall of the Nuffield, Department of Surgery, Radcliffe Infirmary, Oxford University in 1965, entailed an essentially pragmatic approach.

First, oxygenation and ventilation of the patient with simultaneous and emergent preparation for embolectomy, then Heparinization and if there is time, the following additional drugs may be of some value, Morphine, Digitalis, Fibrinolysins, etc.

### **Pulmonary Edema**

In pulmonary edema we may also have hypotension and shock but this situation does not warrant the use of vasopressors or fluid therapy, rather digitalis, morphine, aminophyllin, phlebotomy, etc.

### **Myocardial Infarction**

Here we may mention the controversial issue of hypotension subsequent to or accompanying myocardial infarction. This carries a hazardous prognosis. The picture may progress rapidly to shock. A decrease in myocardial contractility and a decrease in cardiac output are the basic circulatory abnormalities. The best relief is probably found in a careful dose of morphine or demerol. The use of nitroglycerin, oxygen,

etc., may be applicable. The use of digitalis in some instances may be helpful. Vasopressors have been used.

However, Richard Bing stated, in his report on the ideal treatment for the patient with myocardial infarction, that while vasopressors may be of some help in a few cases, they do tend to promote or sustain arrhythmias.<sup>27</sup>

Cohn and Luria also reported this tendency, illustrating their report with two cases where the patients had to be taken off vasopressor therapy, due to the incidence of arrhythmias arising. These patients were subsequently successfully managed with cardiotonic drugs. Again referring to Bloch and Lillehei's report in October 1965, they showed that Levarteranol, the "ideal" vasopressor actually accelerates death in these instances.

The main cause of early death in myocardial infarction is due to the onset of ventricular arrhythmias or asystole.

Lillehei has stated that there is no real evidence that over a period of hours vasopressor drugs in this situation have saved any lives.

Bloch, Pierce, Lillehei in 1965 again showed that vasopressors do not increase cardiac filling. Cardiac output falls. Pulse pressure narrows and tissue perfusion, so important at this stage, is further reduced despite an increase in blood pressure. Any gains in ventricular contractile force stimulated by catecholamines are more than offset by the increased resistance to ventricular emptying and an increased oxygen consumption. This work was supported by the earlier studies of Clowes, Nickerson, Fine, and Mills in their panel discussion.<sup>28</sup>

Moyer states<sup>29</sup> that in cases of M.I., systolic arterial pressure should be kept above 50 or 60 mm. mg. as cerebrovascular stability deteriorates below this blood pressure. He also adds, though, that with systolic arterial blood pressure greater than 90 mgm. of mercury, arrhythmias are likely to occur.

It is of some importance to differentiate



between the relatively benign hypotensive states and the intractible and malignant state of shock.

### Shock

Shock is a low cardiac output, high peripheral resistance, complex state of circulatory failure, according to Lillehei, or as Zweifach states, prolonged inadequate tissue perfusion and especially inadequate cerebral perfusion leads to an irreversible stage, namely, shock, with its characteristics and uniform mortality.

Shock is characterized, quite distinctly, by pallor, gray, cold skin, sweating and tachycardia of poor volume. Visible veins fill poorly. The nail beds are dusky. In later stages of shock there is violaceous mottling of the skin in the dependent areas of the body. Circulation is obviously impaired. Urine flow is typically reduced to less than 30 or even less than 10 cc. per hour. Arteriolar capillary refill time is markedly impaired, as shown by the slow return of color to areas of the forehead blanched by thumb pressure. Hypotension may or may not be present in the earlier stages.

Shock can be the final and self destructive response of the vascular system to any one of the situations we briefly referred to, especially when the indices of poor peripheral perfusion are allowed to progress untreated or are meddled with in unphysiological fashion.

The natural response of the body to severe trauma is adrenergic, but this is the acute response and it is not intended to be perpetuated and further intensified by sympathomimetic drug therapy. The normal regulatory mechanisms for the circulation are geared to cope with variations in circulatory requirements such as those seen in transition between rest and strenuous exercise, and in moderate trauma. However, with instances of major blood loss or trauma this system is rendered inadequate as was shown by Philip Bard,<sup>30</sup> 1961.

As we stated earlier, simply, in severe

hypovolemia the body guards the perfusion of the brain and the heart at the expense of the other viscera.

If fluid replacement is started early, mortality is reduced, though not in all types of shock especially that following septic shock, trauma or prolonged hemorrhage.

Again, and subsequent to successive steps discovered by a host of earlier investigators, Zweifach<sup>31</sup> in 1958, and Rosenberg<sup>32</sup> in 1962, showed that as the period of hypotension progresses the splanchnic circulation is progressively deprived of its blood supply.

Rushmer<sup>33</sup> in 1955 showed that the capillary beds of the body normally contains some 5 to 7% of the blood volume, and that at any one time about 1/3 of the available capillary beds are open, responding locally to auto-regulatory mechanisms. During acidosis and ischemic anoxia, opening of the other 2/3 accounts for a 10 to 15% loss of the effective circulating blood volume. It is from these engorged capillaries that the body loses isotonic fluid, electrolyte and protein.

Sarnoff<sup>34</sup> in 1954, Braunwald<sup>35</sup> in 1965 and others have shown prominent left ventricular failure with deterioration of contractility in all forms of hypotensive shock. The use of vasoconstrictors here may overload the circulation and compound the picture in the already failing circulatory system according to Weil and Sambhi in 1964.

The price extracted for the adrenergic maintenance of the blood pressure is prolonged reduction of visceral perfusion.

### Hypovolemic Shock

Another clinical group falls under the heading of surgical hypotension proceeding to shock due to hypovolemia. This may be as a result of preoperative loss of fluid and electrolyte, so often seen in the aged, neglected, and in those with acute abdominal emergencies. The hypovolemia may be due again to loss of plasma at the site of injury or severe burn, or may be the result of hemorrhage before and during surgery.



In all the clinical situations referred to it is necessary to carefully assess the circulatory status and the total patient, not just the arterial blood pressure.

This is not always easy since low arterial systolic pressure would seem to warrant heroic action. Sometimes it does, but the answer is not always with vasopressors. When the hypotension is accompanied by the other signs as we described earlier, of intense circulatory failure, then it is well to consider other and more appropriate weapons in our therapeutic armamentarium.

In severe prolonged hypotension where shock has developed, the aim of treatment is to restore tissue perfusion, combat acidosis, restore fluid and electrolyte balance, support the failing left ventricular and prevent the sequelae of increased blood viscosity.

This cannot be achieved with adrenergic amines which increase blood pressure but decrease blood flow and compound the perfusion problems, according to Lillehei in 1964, Zweifach in 1961, Nickerson in 1962, and Corday and Williams in 1960.

If the blood or fluid volume is corrected, and this is the primary goal in shock, then the use of adrenergic blocking agents may also be considered.

We do not have time to pursue this subject in detail, but Fine and Hershey have reported on the use of Phenoxybenzamine (dibenzylamine), an alpha adrenergic blocker; also trimethaphan (arfonad); and hydralazine (apresaline) in these cases.

Chlorpromazine has also been found to be most effective.

Vascular capacitance may be increased 25% above preshock levels following the use of phenoxybenzamine. Hence a normal blood volume by radioisotope techniques may be short of the effective volume required to maintain cardiac filling in these situations.

The use of ganglion blockers reduces cardiac work. Cardiac output works against reduced peripheral resistance. They also show improved renal perfusion and restora-

tion of urine flow, due to improved splanchnic blood flow according to Nickerson in 1963.<sup>36</sup>

The use of massive doses of steroids in hypotension, hydrocortisone 40 to 60 mgm/Kg. intravenously is effective. The effect of massive doses of glucocorticoids is similar in pattern with that seen with the use of alpha blockers. They are in themselves weak alpha blockers and also have an inotropic stimulating effect on the heart.

It is evident that with early use of adequate and appropriate fluid replacement in surgery the development of prolonged and refractory hypotension can be avoided and morbidity and mortality greatly reduced.

Truknowski reported in February 1966<sup>37</sup> on the result of the use of Ringers lactate in 24,000 cases of patients undergoing routine surgery. He noted a 40% decrease in hypotensive complications in the average two hour procedure with this routine. Some 2,000 cc. of isotonic fluid were used in most situations.

Large amounts of hypotonic fluids may cause dilutional hyponatremia or, even, convulsions in the post-operative patient according to Parks in 1966.<sup>38</sup> Functional loss of isotonic extra cellular fluid is equal to about two liters in any major surgical procedure.

In view of the severe and increasing acidosis in shock the use of ganglion blockers should also be accompanied by bicarbonate. The use of buffering agents in an attempt to correct this severe metabolic acidosis in shock, however, will not, of themselves, cope with the fact that the huge under perfusion visceral tissue masses are able to produce acid metabolites faster than can be corrected by extraneous buffers according to Thal in 1965.<sup>39</sup> These comments are not intended to decry the use of the other ancillary measures in treating shock, but are intended to emphasize the basic importance of the underlying problem namely that of poor peripheral perfusion and the necessity of opening up ischemic areas in the visceral

micro-circulation, restoring an adequate effective circulating blood volume, reducing the external pressure work load in the failing ventricle, and decreasing fluid resistance to blood flow.

It is hoped that in this very brief summary we have been able to stress not alone some of the alternatives to the use of vasoconstrictors in hypotensive states, but also to review the underlying pathophysiology and thus suggest some reasons for a more discrete approach to the hypotensive patient, other than the use of the traditional vasopressor ritual in this situation.

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### A Hiccup Remedy That Works

Believe it or not, there's a hiccup remedy that almost always works—but it should be used only by physicians. The October 2nd *Journal of the American Medical Association* reports on the process, called pharyngeal stimulation. It involves inserting a flexible tube into a nostril and stimulating nerves in the pharynx, the area at the back of the mouth where nasal passages join the throat.

The process worked in 84 of 85 cases, report three physicians at the University of Chicago School of Medicine and a fourth colleague on the faculty of medicine at Cairo University, United Arab Republic.

Hiccups can be troublesome or even dangerous during surgery. These involuntary contractions of the diaphragm have a variety of causes—and the attempted medical remedies have been almost as numerous as those which come from folklore. Physicians, too, have tried such remedies as swallowing ice, holding the tongue, frightening with a loud noise, and pressing on the eyeballs. Their results have been about as unpredictable as those of laymen. On a more sophisticated level, they have tried drugs and nerve blockage, often with similar results.

Hiccups seem to occur frequently during

light anesthesia. One remedy has been to deepen the anesthesia; however, several times more anesthetic is required to stop hiccups than merely to induce unconsciousness. In some cases, this is undesirable.

Hiccups stopped immediately in 64 anesthetized and 20 conscious persons when pharyngeal nerves were stimulated by jerky, back-and-forth movements of the tubing. Patients ranged in age from 18 months to 73 years. In ten cases, a variety of drugs had failed to stop hiccups, but they ceased almost immediately with the new method. In five cases, the hiccups returned, but stopped during retreatment. Only one anesthetized patient failed to respond to treatment.

The reasons some harmless "home remedies" are sometimes successful—such as swallowing ice or water—may be that they, too, result in stimulation of the pharyngeal nerves.

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# Vasopressors in Pregnancy

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*The anesthesiologist who has a responsibility for the survival of mother and infant and subsequent development of the child, must understand the effect of vasopressors on both the maternal and fetal circulation.*

THE USE OF VASOPRESSORS in pregnancy has been undergoing modification in the past several years because of experimental evidence and closer observation of mother and fetus during and after delivery. Investigators have attacked the problem experimentally by determining correlation between maternal blood pressure, uterine blood flow, and the acid-base status of the fetus.<sup>1,2</sup>

One problem clinically is in the definition of hypotension. There are several criteria available. Some define maternal hypotension as percentage of baseline fall.<sup>3</sup> Often it is difficult to obtain an accurate baseline blood pressure because of maternal excitement. However, those that use the percentage of baseline fall usually consider hypotension as 20-30 percent drop from baseline. The system of Moya and Smith seems to be a little more objective.<sup>4</sup> They feel that any blood pressure below 100 millimeters of mercury represents hypotension, since below this figure Apgar scores indicate that the infants are depressed. Different guidelines will have to be worked out for

hypertensive patients. Another problem in the clinical situation is correlation of observation of blood pressure, with maternal and fetal condition, both in the operative period and in the years to follow.

One has to consider the importance of hypotension and its treatment from the standpoint of the infant. It is time physicians begin to think in terms of overall effects. Medicine in the past considered results as either the patient lived or he died. However, when considering newborn babies, this is not acceptable. What happens to the long-term survivors? Nothing is more tragic than the child who does not fit into his family intellectually or physically because birth asphyxia and its causes went unrecognized and were improperly treated.

Asphyxia is not all or none. Just because an infant did not need resuscitation does not mean he was spared the tragedy of brain damage. The "sleepy" baby of the past is the subject of much concern. One of the difficulties in this area is that the physician responsible for the infant's immediate survival never gets a chance to see him later when he may be handicapped with cerebral palsy, or when he may be a misfit in school or in the family and is a victim of what we now call "the minimal brain damage" syndrome,<sup>5</sup> referred to by some as a "continuum of reproductive casualty."<sup>6</sup> Brain damage is a spectrum—from the child with severe cerebral palsy on the one end to the child with "minimal brain damage" on the other. This is a behavioral syndrome consisting of inappropriate activity, decreased attention span, poorly controlled impulses, and intellectual deficits of varying type and degree often leading to school problems.

Cause and effect in this area are very subtle. Clinical impression is of no value,

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because it takes many infants under many circumstances to be able to statistically prove anything. Currently, the Collaborative Project on Cerebral Palsy, Mental Retardation and Other Neurological and Sensory Disorders of Infancy and Childhood has been investigating the newborn infant's early state as evaluated by the Apgar system in relating the conditions of pregnancy, labor, and delivery to the immediate survival of the infant and a subsequent long-term development of the child.<sup>7</sup> There were 17,000 infants in this study in 1965. The Apgar score, as seen in figure 1, is deter-

THE EVALUATION OF THE NEWBORN INFANT

SIGN	0	SCORE 1	2
heart rate	absent	slow (below 100)	over 100
respiratory effort	absent	weak cry hypoventilation	good strong cry
muscle tone	limp	some flexion of extremities	well flexed
reflex irri- tability (response of skin stimula- tion to feet)	no response	some motion	cry
color	blue pale	body pink extremities blue	completely pink

Fig. 1. The Apgar Scoring System for the evaluation of the newborn infant. Adapted from Apgar, V., et al., J.A.M.A. 168:1985, 1958.

mined by heart rate, respiratory effort, muscle tone, reflex irritability, and color. Ratings are 2, 1, or zero. The distribution of five minute scores is depicted in figure 2. One and eight tenths percent of the infants had a score of 0-3, 3.5 percent had a score of 4-6, and 94.7 percent had a score of 7-10. Admittedly, this is a gross system but with use, it becomes more meaningful. It is better than no system at all. The higher the score the better the infant. The Apgar score is a reflection of acid-base status of the infant, not oxygenation at birth. It represents more the perfusion history of the

infant than it does the actual immediate oxygenation since changes in acid-base status take considerably more time to occur than do changes in  $PO_2$  which can rapidly

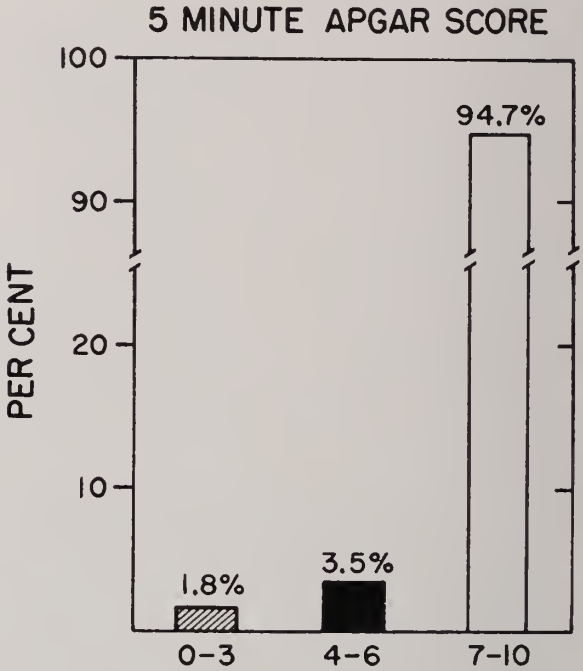


Fig. 2. Per cent distribution of 5-minute Apgar Scores. Adapted from Drage, J. S., et al., Ped. Clin. N. Amer. 13:635, 1966.

fall with clamping of the cord. The five minute Apgar score is more accurate for predicting survival than the one minute score. This certainly makes sense since the longer the inadequate perfusion of the baby the greater are the chances that death will occur or that the infant will suffer long-term neurological deficits.

The two most important variables in neonatal mortality are the birth weight and the five minute Apgar score. Figure 3 shows the relationship of birth weight and five minute Apgar score to neonatal mortality. Neonatal mortality refers to death within the first month of life. Unfortunately, there is no all or none with newborn infants. They don't either die or live and are perfectly normal. There were 14,000 infants left in the study who were examined at the age of 48 to 60 weeks.<sup>7</sup> Three evaluations have been given as to the diagnostic impres-

sion of neurological status—they are normal, neurological suspect and neurologically abnormal. In the first category, there were

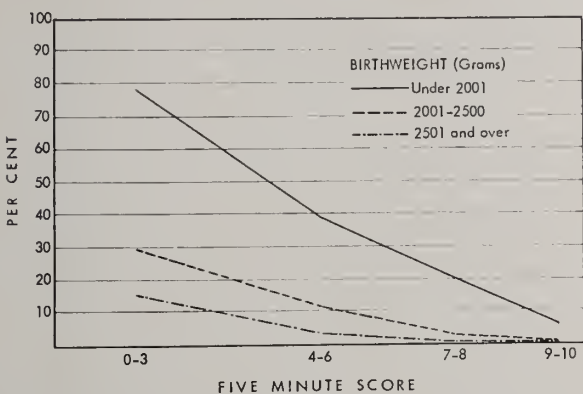


Fig. 3. The relationship of birth weight and 5-minute Apgar Score to neonatal mortality. Adapted from Drage, J. S., et al., *Ped. Clin. N. Amer.* 13:639, 1966.

two evaluations, either normal or neurologic suspects. For purposes of statistics, these two groups were classed as “neurologically normal”. With time, we may find that many of the neurologic suspect group will prove to be neurologically abnormal. The second major category was the neurologically abnormal child. Figure 4 is a graph

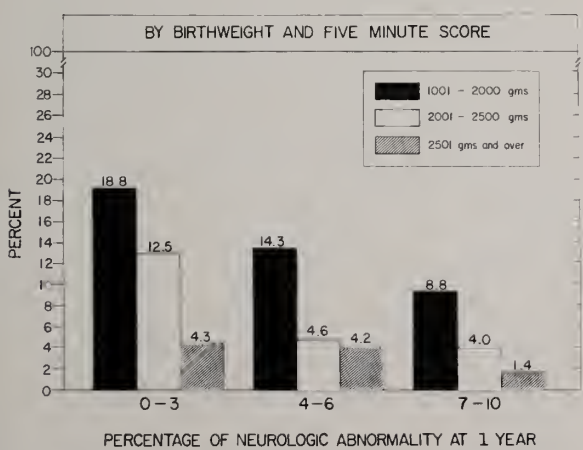


Fig. 4. A graph of birth weight, 5-minute Apgar Scores, and percentage of neurologically abnormal infants at 1 year. Adapted from Drage, J. S., et al., *Ped. Clin. N. Amer.* 13:639, 1966.

of birth weight, five minute Apgar scores, and the percentage of neurologically abnormal infants.

What does all this mean to the anesthe-

siologist, who, maybe without knowing it, is actually responsible for part of this long-term status of a newborn baby? Moya and Smith did show that blood pressure under 100 decreased the Apgar score. The Apgar score has a definite correlation between degrees of infant depression and both short-term survival and long-term developmental progress. Many questions are still unanswered. We hope that collaborative projects will continue to supply answers.

The major cause of hypotension at delivery comes from anesthesia, mainly by subarachnoid block or epidural block, but also by general anesthesia. Its etiology is the pharmacological sympathectomy which is performed. This causes vasodilatation with venous pooling of blood, decreased circulating volume, decreased venous return, decreased cardiac output, and decreased blood pressure.

The vena cava syndrome also may either cause hypotension or add to the hypotension. The vena cava syndrome consists of the gravid uterus compressing the vena cava. It is complicated by regional anesthesia, since relaxation of the abdominal and spinal muscles allows the uterus to compress the vena cava. This leads to decreased venous return, decreased cardiac output, and hypotension. The incidence of the vena cava syndrome is thought to be from 10 to 15 percent in cases of maternal hypotension.<sup>8</sup>

As hypotension ensues, the fall in maternal blood pressure is reflected in a fall in the uterine blood flow and placental blood flow, and hypoxia with acidosis may develop in the fetus depending on the degree of decreased flow. Under conditions of normal circulation, the uterine vascular bed is widely dilated with no tendency toward autoregulation or hyperemia after transient blood flow occlusion.<sup>9</sup> Maternal uterine vasculature has a low grade adrenergic tone which potentially can cause marked vasoconstriction. With hypotension, maternal compensation occurs with an outpouring of endogenous catecholamines. The result is



vasoconstriction in order to increase the resistance system so that cerebral and coronary perfusion will be maintained. Maternal blood pressure often rises, but vasoconstriction remains and there is a dichotomy between maternal blood pressure and uterine blood flow. At this point one's monitoring system is no longer able to reflect what is happening both within the maternal and fetal system. With vasoconstriction, blood is shunted away from the uterus and other non-essential organs to the essential organs, i.e. brain and heart. This likewise means that it is shunted away from the placenta and the fetus. The degree of drop of maternal blood pressure roughly correlates with the decrease of perfusion of the uterus. The blood pressure rises mainly because of increased peripheral resistance and not because of increased cardiac output. This has been well documented in animals. With restoration of maternal circulating volume, however, the maternal blood pressure more nearly reflects uterine blood flow and hence fetal oxygenation. Studies done in animals such as the dog and the sheep and clinical observations of depressed infants indicate that the use of vasopressors which act either directly by alpha adrenergic stimulation or by causing release of norepinephrine lead to a dichotomy of maternal blood pressure and uterine blood flow.<sup>1</sup> Depending upon the time and degree of decrease of uterine blood flow, depression of the fetus occurs because of hypoxia and acidosis. Therefore, both experimentally and clinically in maternal hypotension the major problem of decreased maternal circulating volume should be handled by primarily increasing maternal volume. The use of vasopressors should be reserved for life or death considerations of the mother or possibly in small dosages to maintain the mother's pressure until sufficient volume can be given in cases where the maternal pressure is steadily falling. In other words, if the mother's pressure drops precipitously, then vasopressors are indicated immediately to help maintain pressure and

perfusion of the coronary and cerebral vessels until volume can be given. If one gives the block, and the pressure slowly drops, then perhaps very small increments of intravenous vasopressors are indicated to help maintain pressure at about 100 mm. Hg until more volume can be given. Studies have not been done in this type of case where the pressure is slowly falling. We will have to wait for further studies on uterine blood flow and the use of small increments of vasopressors to get the answer. Experimental evidence today would suggest that there is place for the prophylactic use of vasopressors in obstetrics. The reasons are multiple. In one series of 1100 patients who received prophylactic vasopressors blood pressure below 100 occurred in 23 percent of the patients.<sup>3</sup> As has been pointed out, vasopressors cause constriction of the uterine vessels, and one has the danger of a hypertensive overshoot.

### **The Choice of a Vasopressor**

Ideally, one would like a vasopressor which would work only on the venous system to decrease pooling and thereby increase venous return, for after all, this is the primary problem in regional blocks. Unfortunately, such is not available. Methoxamine is not a good drug because of the severe overshoot of blood pressure and the occasional problem of a cerebral vascular accident in the mother when an oxytocic drug is given.<sup>11</sup> Ephedrine has both a peripheral and central effect and appears to be a reasonable choice. Phenylephrine and other drugs which cause a peripheral vasoconstriction have a short period of action intravenously, and are useful. Isoproterenol causes peripheral vasodilatation because of beta adrenergic stimulation and if volume is already compromised, then this might cause a further increase in hypotension.

### **Route of Administration**

The intravenous route would appear to be much the wiser choice since the intra-

muscular administration of vasopressors is variable in onset and in length of action. Intravenous administration has a more rapid onset, and there is much closer control of the drug administration. The effects can be terminated more rapidly.

A technique of regional anesthesia in C-sections is pre-treating the patient with 5-700 cc of lactated ringers or saline solution before the block is administered. If the pressure drops after the block is given, the patient is placed on the left side at about a 30 to 40° angle to remove the uterus from the vena cava, and the patient is placed in slight Trendelenburg position to increase the venous return. The fluids are also sped up at this point. However, if there is a precipitous drop in pressure, if the drop is below 100, then 2-3 mg of i.v. ephedrine is administered until fluids can be given and the pressure stabilized.

### Summary

It would appear that the use of vasopressors in obstetrics has undergone modification because of a better understanding of drug action, tissue perfusion and a correlation between current medical events and long-range evaluation. Vasopressors are indicated while volume is being given if there is a sudden decrease in maternal blood pressure and a life or death situation for the mother exists. They seem to have a much less secure place in slowly falling blood pressure when the pressure is below 100. Available evidence suggests strongly that they have no place prophylactically.

The anesthesiologist has a unique and

heretofore not well documented or understood responsibility for both the immediate survival of mother and infant and for the more subtle long-range development of the infant.

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# Primary Idiopathic Segmental Infarction of the Greater Omentum

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*This rare abdominal disorder has a typical course but is usually diagnosed only at laparotomy.*

**P**RIMARY IDIOPATHIC SEGMENTAL INFARCTION of the greater omentum is a rare abdominal disorder which mimics several common causes of the acute surgical abdomen. Although it is a relatively unusual disease, its symptomatology follows a fairly consistent pattern. A recent case at the University of Virginia Hospital is presented as an example of the typical course of this condition.

## Case Presentation

A 76 year old Negro female was well until two days prior to admission when she developed pain in her right abdomen. The pain gradually increased in severity and became localized in the right lower quadrant and the lower portion of the right upper quadrant. The patient had been anorexic but there was no nausea or vomiting. There had been no change in her bowel habits except for three loose stools on the day of admission. Past medical history was not notable except for hypertension and a mild cerebral thrombosis two years before which rapidly cleared with no residual defects. There was no history of trauma or surgery.

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On admission, blood pressure was 190/90, pulse 104, and temperature was 38.4°C per rectum. Pertinent physical findings were limited to the abdomen which was quite obese but non-distended. The patient had generalized abdominal guarding—greatest on the right side—with direct and rebound tenderness in the right lower quadrant and the right para-umbilical areas. There was hypersensitivity of the skin over this area. Bowel sounds were normal. No masses or scars were demonstrated. There was no visceromegaly. Pelvic and rectal examinations were entirely normal except for some slight tenderness high in the right adnexal area. The white blood count was 8400, hematocrit 40%, and the urinalysis showed microscopic pyuria.

The patient was taken to the operating room with a presumptive diagnosis of acute appendicitis. A right lower paramedian incision was used. Upon opening the peritoneum, serosanguineous fluid was observed. The appendix was identified and appeared normal. Abdominal examination revealed a mass of yellow-brown necrotic omentum, 16 by 7 cm. and triangular in shape, lying in the right colic gutter adherent to the greater omentum. This was not twisted upon a pedicle, and there was no evidence of internal hernia. The mass of necrotic omentum was excised. An incidental appendectomy was performed and the abdomen was closed. Postoperative diagnosis was primary idiopathic segmental infarction of the omentum. Microscopic examination of the specimen revealed areas of recent hemorrhage and focal acute inflammation. The patient recovered and was discharged on the fifth postoperative day.



## Discussion

Primary idiopathic segmental infarction of the greater omentum has been described under a variety of different names including: acute epiploitis, omental infarction, omental volvulus, thrombosis, of the omentum, acute segmental omental infarction, hemorrhagic infarction of the greater omentum, etc.<sup>7</sup> There are less than 100 reported cases in the literature<sup>7,8,11</sup> and, historically, the first case was reported by Bush<sup>1</sup> in 1896, but the exact nature of the pathologic lesion which he described is quite obscure.<sup>8</sup> Eberts,<sup>3</sup> in 1920, presented a case of an omental hemorrhage in a 21 year old man which is probably the first accurate description of the disease.<sup>8</sup>

Omental infarctions have been classified in many different ways. Tokita<sup>11</sup> has suggested a simplified but adequate method:

### Omental Infarction Due to Thrombosis

Hernia or Adhesion

Inflammatory

Traumatic

Idiopathic

### Omental Infarction Due to Torsion

Primary (Synonyms: Idiopathic, Cryptogenic, Pure, Intra-Abdominal)

Secondary

Hernial (External, in Sac)

Abdominal

a. Intrinsic (Cysts and Tumors)

b. Extrinsic (Associated with Pathology of Abdomen, Pelvic Organs and Peritoneum)

Wrzesinski et al.<sup>13</sup> states that in order for the disease process to be described as primary idiopathic segmental infarction of the greater omentum, it must fulfill four criteria: "(1) The infarction must be spontaneous and idiopathic and not preceded by trauma, infection, or other etiologic factors which could, by obvious cause and effect, initiate the process; (2) it must be segmental and not associated with massive vascular occlusions involving large areas of the omentum and adjacent organs; (3) it must

be primary in the omentum and not the result of disease in a neighboring structure; (4) it should present the typical gross and microscopic picture excluding especially the presence of a pedicle, either twisted or untwisted, which would indicate pathology secondary to torsion.

The signs and symptoms of this process are often quite generalized yet they seem to follow a fairly specific pattern. It was thought for some time that this was primarily a disease of middle age<sup>11</sup> but Perry<sup>8</sup> has proven that children are afflicted as often as any other age group. Abdominal pain, which is the only constant symptom, is usually located in the right lower or upper quadrant and is aggravated by movement. Usually the onset of the pain has been quite sudden and often it occurs after a meal. Many times the patient waits several days before seeking medical attention because the pain is not severe and seldom produces any marked change in the gastrointestinal pattern, although anorexia is not uncommon. Vomiting is rare but diarrhea may be present. The patient often has a slight temperature elevation, seldom higher than 38.5°C. There is usually a mild leukocytosis. Pertinent physical findings usually include direct and rebound tenderness over the lesion with a paucity of other abnormal abdominal findings. Frequently Ligat's sign is present<sup>5</sup> (hyperesthesia of the skin over the area of pain). Because of the infrequency of occurrence of this disease, and the common diseases which it mimics, an erroneous preoperative diagnosis is frequently made. The preoperative diagnosis is usually appendicitis but other choices have included acute cholecystitis, perforated peptic ulcer, diverticulitis, splenic infarction, pancreatitis, mesenteric thrombosis and carcinoma of the colon.<sup>7,11</sup>

At surgery there are several typical findings. Upon entering the peritoneal cavity, serosanguineous fluid is usually visible. The lesion is generally triangular in shape and the vast majority of the time it is located in the right lower quadrant or low in the right

upper quadrant of the abdomen. The necrotic fat may be yellow-brown in color or, if frankly necrotic, may be reddish-black. Hemorrhagic extravasation is usually visible. The lesion may be adherent to the parietal peritoneum by some adhesive bands or it may be lying free on the greater omentum. Microscopic examination shows venous congestion and thrombosis with hemorrhage and necrosis of fat. The surface may show exudate formation.<sup>7</sup>

The exact etiology of this disease process and why it occurs in the right lower portion of the greater omentum has not been adequately explained. Pines and Rabinovitch<sup>9</sup> have demonstrated that stretching of a vein will damage its endothelium and lead to thrombus formation. They speculate that stretching of an omental vein from gravity or exercise will damage its endothelium and lead to thrombus formation. Khalouf and Hermann<sup>7</sup> as well as Totten<sup>12</sup> suggest that any increase in intra-abdominal pressure such as straining, coughing, laughing, or sneezing after a heavy meal when the omental veins are engorged with blood may cause a small rupture with hemorrhagic extravasation and a secondary thrombus formation. Other suggested causes include: compression of the omentum between the liver and the anterior abdominal wall,<sup>8</sup> obesity,<sup>6</sup> and Seley<sup>10</sup> has presented a case which suggests a relationship with polycythemia.

Exactly why this lesion occurs almost exclusively in the right side is even less well understood. Halligan and Rabhiah<sup>5</sup> believe that the most common site is the right lower segment of the greater omentum because it is richest in fat and in venous drainage as well as being the most mobile. Eger and Barto<sup>4</sup> have suggested that there is some anatomic peculiarity of the right lower portion of the omentum which predisposes to thrombosis. Perhaps the lesion actually occurs in equal proportion throughout the greater omentum, but the surgeon's concern for the right lower quadrant affords early surgical diagnosis and cure of a disease

which is most probably self limiting in nature.

Treatment is excision of the involved omentum. Usually an incidental appendectomy is performed. Cagney and Milroy<sup>2</sup> have reported a case in which the lesion was in the gastro-colic omentum and was not excised. They simply drained the area and the patient recovered without incident. Eger and Barto<sup>4</sup> point out, however, that this procedure could lead to adhesion formation with subsequent abdominal symptoms. If the diagnosis were made with certainty preoperatively, perhaps laparotomy would not be necessary, but the nature of the symptoms and the diseases which it mimics make exploration mandatory.

The prognosis is excellent. There have been no reported deaths due to this disease.<sup>13</sup> It is unknown if there is an increased incidence of abdominal vascular accidents in these patients.

### Summary

A case of primary idiopathic segmental infarction of the omentum is presented. It is a rare abdominal condition which is usually discovered only at laparotomy when appendicitis or some other cause of the acute abdomen is suspected. If serosanguineous fluid is present in the peritoneum in the presence of a normal appendix and other abdominal organs, the greater omentum should always be carefully inspected for this disorder. Treatment is simple excision of the necrotic omentum. Prognosis is excellent.

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### First Half Year Catastrophe Death Toll Low Again in 1967

The Statistical Bureau of the Metropolitan Life Insurance Company maintains a current record of catastrophes—accidents in which five or more persons lose their lives. A brief midyear summary is given here. In the first half of the current year catastrophic accidents took a little over 600 lives, or about the same number as in the corresponding period of 1966. The death toll, nevertheless, was distinctly lower than the average for the first half-year periods of the previous decade.

In some major types of catastrophic accidents there was a decline from the figures recorded in the first half of 1966. Natural catastrophes accounted for about 100 fewer fatalities, and those associated with motor vehicles and water transportation showed a somewhat smaller drop. However, military aviation and scheduled civil aviation both experienced an appreciably larger loss of life, while the toll from fires and explosions increased moderately.

Fires and explosions, largely in private homes and in apartments, caused a fourth of all catastrophic fatalities in the first half

of 1967. Nearly as large a proportion resulted from civil aviation. Motor vehicle accidents contributed at least a fifth of the total, while military aviation and natural catastrophes (all tornadoes) were each responsible for a little more than a tenth.

During the first six months of 1967 there were five major catastrophes, each accounting for at least 25 fatalities. In the largest such disaster, which occurred on April 21, tornadoes devastated several areas in northeastern Illinois, taking the lives of 55 persons. On March 5 a scheduled plane crashed in a field near Kenton, Ohio, causing the deaths of 38 persons. Just four days later, 26 fatalities occurred when another scheduled plane collided with a private aircraft near Urbana, Ohio. Thirty-four persons died on June 23 near Blossburg, Pennsylvania, in the crash of a scheduled airliner. The fifth disaster was a fire which on February 7 took 25 lives in a penthouse restaurant in Montgomery, Alabama.

*(Statistical Bulletin, Metropolitan Life Insurance Company)*



# Presentation of a New Malady

## "Medical Mutism"

*Nothing is gained by suffering in silence. Does the medical profession find the present Medicare, programs, and its inevitable extension distressing? This should be the subject of open and frequent discussion.*

**O**NSET: Two to three years ago rather suddenly.

**EPIDEMIC PROPORTIONS:** From AMA in Chicago to The Medical Society of Virginia in Williamsburg to County Societies.

**ETIOLOGY:** Virulent virus called Medicare.

### SYMPTOMS & SIGNS:

1. There is a marked absence of open discussion about the many facets of Medicare, especially the factor of government controls and coercions.

2. Program committees are especially hard hit.

3. At medical meetings small groups of two and three talk about it in hushed tones, but become silent if subject is brought into open, and follow with blank looks and pursed lips.

4. When talk of action to be taken occurs, confusion is apparent, and extreme sensitivity of feelings develops, requiring great finesse in the use of words.

5. Last week on CBS when a documentary film on Medicare was presented on

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T.V.—no AMA spokesman could be obtained.

6. In Williamsburg at the annual meeting of The Medical Society of Virginia, one year after passage of Public Law 89-97, and five months after implementation, no time was allotted for the discussion of Medicare. The one program so billed was an error in printing.

7. Our local medical society never mentioned Medicare seriously until it had been passed six months then had one program on the subject. There have been none since to my knowledge.

**MECHANISM OF ACTION—Unknown—**  
But I suspect these are some of the factors:

### 1. A Question of Loyalties

Are our loyalties to organized medicine and the principle of freedom to practice without government interference and to oppose the encroachment of government bureaucracies; or to local influences—hospital boards, business office personnel ("they're having an awful time with paper work and need our help.")? Or are they to the elderly patients who feel that they deserve "free medical care" and think that the doctor should do all the paper work and submit to the government yoke without complaint.

### 2. A Question of Values

This is a philosophical factor, but a vital one in the long run. We cannot put off forever the moment of truth—to be called upon to stand and be counted!

In our sense of values, is the freedom to practice medicine as our forefathers did an

important bedrock principle? Or is freedom to practice medicine as we have known it of relatively little value to be pushed aside as society changes? Or do we, because we are neither hot nor cold, bend with the wind, to and fro, with whatever pressures are greatest at the moment? Or do we submit to the blackmail threat to hospital staffs "If we don't conform they'll not approve us for Medicare"; and to the individual staff member "If you don't conform you can be removed from the staff"?

### Discussion and Summary

1. It was not always thus! In 1960 when the California Medicare Program was being implemented there was much vigorous and prolonged and, yes, even heated discussion on the ways to prevent further encroachment of government controls in medicine. Why the sudden hush?

2. There is discussion in the House of Delegates, but rigid parliamentary procedures do not encourage free discussion. We have panel discussions on other factors of government in medicine. Why not open

discussions for rank and file members? It is an accepted principle in psychiatry that the first step in the treatment of painful conflicts is to bring them out into the open, examine all the factors and spew out frustrations and anger and hostilities. Isn't it about time we indulged in some "Mental Catharsis"?

3. As physicians we delve into the most intimate factors of anatomy, physiology, pathology and psychology of our patients as a matter of course. But when we are smitten with this curious malady we seem unable or unwilling to investigate, discuss, research, and come up with a treatment or cure.

4. Perhaps at this season it is not amiss to quote from Scripture reverently: "He healed others, but He cannot save Himself." This was spoken of the Master Physician as he was dying, nailed to the cross. Is this to be our epitaph as a profession? Perhaps we need to heed the jeers of the crowd—"Physician, heal thyself!"

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### School Is the Place to Stop Measles

A child should be protected with measles immunization now, particularly if he is in the first few weeks of kindergarten or the first two grades of elementary school.

Measles epidemics often start in this age group, and then spread to younger children at home. The disease is more dangerous than many realize, says the American Medical Association.

"Go back to school, but not back to measles" is the theme of a nationwide program to encourage measles immunization, sponsored by the AMA and 16 other health organizations.

Although measles is one of the most common of diseases, it isn't generally known that it can cause encephalitis (sleeping sickness),

mental retardation, deafness, blindness, or even death.

The measles vaccines are inexpensive, safe, and effective. They are available at your physician's office or public health clinic. The permanent-type vaccines probably give lifetime protection.

Measles could be eliminated in the near future if more children were immunized.

About four million measles cases occurred every year before measles vaccine became widely available in 1964, according to the U.S. Public Health Service. The number of cases has been cut to about one-eighth the former total. Even this number could be eliminated if immunization were more widespread.

# Diving and Medicine

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**T**HOUSANDS OF PEOPLE have taken up skin diving which requires only simple mask, fins, and snorkle. This type of diving is self-limited. However, the scuba divers (using Self-Contained Underwater Breathing Apparatus) are the true divers.

The early growth of scuba diving was particularly slow, because the sport was a "war baby". It was born in 1943 when Jacques Yves Cousteau of the French Navy, and an engineer named Emile Gagnon used secondhand ideas to perfect a breathing regulator that enabled ordinary men to go below with a tankful of adventure on their backs. Since 1950 more than 600,000 regulators have been sold in the United States, most of them to folks who a few years ago never dreamed of going into this unreal world.

It is only with the coming of the Explorers Club that the sport has really zoomed. On Grand Bahama the novice who makes satisfactory progress can, in the matter of a week, enjoy the shallow reefs and also wander in safe company into the spectacular twilight farther down. The Club will supply guides for fully experienced divers to the 150 foot level, a short way into the Narcosis Zone.

Today this sport (skin and scuba diving) in the United States is assumed to have over seven million members and of these four million use scuba equipment. However, the fourth leading type of fatal accident in this country is drowning—approximately 7,000 deaths are reported a year. This emphasizes the point that the very best equipment that can be obtained should be used. Beware of using homemade equipment or any type of

rebreathing apparatus. The rebreathing apparatus is only used with pure oxygen by the military services especially during war time. This type of equipment is used by the military to prevent the "tell-tale" bubbles from reaching the surface of the water.

Pure oxygen when used with the rebreathing equipment is more risky and toxic than compressed air. Ten minutes at 40 feet depth is the maximum safe time allowable with oxygen. In sport diving compressed air is used, because it is much safer, less expensive, and the allowable time under water is much longer. Air is 78% nitrogen, 21% oxygen, carbon dioxide .035, and other inert gases .97%. To avoid carbon dioxide and carbon monoxide poisoning be sure to fill the tanks with an electrical operated compressor. Never use a gasoline operated compressor and never use a compressor lubricated with oil.

By skin diving, the Korean and Japanese women have made a living from what they recovered from the ocean floor for centuries. Through life-long practice it is amazing what they can accomplish. The lung volumes and alveolar gases during actual dives were studied in the Korean diving women. The average velocities of descent and ascent was 0.6 foot per second. The maximum depth and duration of dive observed was 17 feet and 82 seconds respectively. However, typical sustained diving activity is to a depth of five feet for 30 seconds; averaging 60 dives per hour. The Japanese as a rule, work in pairs, the man handling the boat and the woman diving. This diving pattern, or assisted dives of the Japanese last 60 seconds and reach a depth of about 20 feet. Prior to diving the lung is filled to 85% of vital capacity; about 700 CC of this gas is lost upon return to the

Panel Symposium on Environmental Cardio-Pulmonary Physiology in Sports Diving, Weightlessness, and Altitude Flying—A.M.A. (Chest Division) Chicago 1966.



surface. Hyperventilation before diving reduces the  $\text{PCO}_2$  to 28. As you would expect at the bottom, the fractional composition of oxygen as well as carbon dioxide is less than before the dive, indicating that both gases are removed by the circulation. Bottom  $\text{O}_2$  pressure is high due to compression, but falls rapidly upon ascent. The compression of the gases accounts for the reversal of  $\text{CO}_2$  transport; upon return to the surface  $\text{CO}_2$  leaves the blood and reaches normal values.

In sport diving fifty feet should be your maximum depth; at a lower level you would find very little sunlight. Most experts agree that a descent of from 15-30 feet, just beyond the shore line, can bring you into contact with this new and ever changing world. In skin diving the recommended beginner diving limit is 25 feet; intermediate and spear fish diving limit 50 feet; one hundred feet is considered the maximum for expert skin divers; beginners in scuba diving should be limited to 35-40 feet, and for expert scuba divers 125 feet. For water temperature above 75 degrees-F., no special suit is required; for temperatures 60-75 degrees-F., woolen underwear; 30-60 degrees-F., wet or dry suit and for temperatures below 30 degrees F., combination of wet and dry suits.

Don't let underwater distances fool you; for example, a three foot fish at a distance of 12 feet, would appear to be four feet long and nine feet in actual distance. Remember sound travels underwater at 4900 feet per second, also one 72 cubic foot tankful of air will supply the scuba diver for 30 minutes at a depth of 66 feet. The writer insists on the "Buddy System"—never sports dive alone—your "swimming buddy" would be life saving if and when you get in trouble.

Roughly we might say that for every one foot depth of water there is approximately one-half pound increase in pressure or thoracic squeeze. At sea level our vital capacity would be five liter—the pressure 14.7

—one atmosphere (Psi)—one tank of compressed air would last 90 minutes—at 33 feet, 29.4, 2 atm. (Psi)—you would have the equivalent of one-half tank compressed air, good for 45 minutes. At 66 feet, 44.1 pounds, 3 atm. (Psi), one-third tank compressed air, good for 30 minutes—at 99 feet, 58.8 pounds, 4 atm. (Psi), one-quarter tank compressed air good for 23 minutes—at 132 feet, 73.8 pounds, 5 atm. (Psi), one-fifth tank compressed air good for 18 minutes. It would be wise to write the Navy Medicine Department, c/o Submarine and Diving School, to obtain the charts which states the maximum length of time that may be spent under water. If that time limit is exceeded for a stated depth then the diver must be put in a compression chamber. There is no reason for such a problem developing, but as we all know, some people think the rules are made for other people. Each sports diving club should write the Navy Medical Department and determine where the nearest portable compression chamber is or would be available. Remember that nitrogen is cumulative, therefore the charts showing the maximum time allowable underwater (stated depth), would be for a 12-hour period. If you desire, recall Boyles Law and its practical application in scuba diving (the volume of a gas varies inversely as the pressure, if temperature is constant).

Many problems develop in ascent; the diver must not ascend faster than 50-60 feet per minute; do not get panicky and hold your breath. You must exhale freely as you ascend; this will prevent "bubbles" or nitrogen retention. Always take a seasick tablet before diving. Seasickness is more prevalent than realized, and vomiting would be fatal.

A physical examination should be a must before taking up skin or scuba diving. The diver must be able to withstand heavy exertion; have no psychiatric condition, the chest must be x-rayed, not overweight, no ear disease or perforation of the drum, no

evidence of sinus disease, vision and hearing must be normal and no cardio-vascular problems. To take up sports diving for the excitement or thrill should be unthought of and very foolish. And never forget, when you go diving, have a pal or buddy with you.

Skin diving and scuba diving is one of the last uncrowded sports open to you. You move through the water in a state of weightlessness that is exhilarating to both mind and body. There is a world down there that staggers the imagination. A vast silent world that is timeless in its beauty.

Possibly you may wish to discover the answer to the question "What's down there?"

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### Mumps Vaccine Safe and Effective

Further evidence that a newly developed mumps vaccine may be safe and effective is reported in the Journal of the American Medical Association.

Mumps vaccines have been under development for some time. None are yet available to the public, but this latest, limited test of one vaccine strain is a step in establishing its safety and effectiveness. The vaccine had been tested earlier on children; this was its first test on adults.

The vaccine produced or increased mumps-preventing antibodies in the blood of all but one of 20 adults who never had mumps.

Ninety-five adults were tested, but 75 of these were found to have varying amounts of mumps antibodies, even though they could not remember contracting the disease. Tests on these 75, however, indicated their antibody levels were increased, meaning

they gained increased resistance to mumps.

The Journal report, by investigators at the Merck, Sharpe and Dohme Co. laboratories and Merck Institute for Therapeutic Research, West Point, Pa., concerns a live-virus mumps vaccine called the Jeryl Lynn strain.

There were no serious adverse reactions to the vaccine. Fever was "remarkably absent" in those whose blood tests had showed no evidence of existing mumps antibodies.

"The vaccine provides a potentially useful tool for eliminating (sickness) and time loss from mumps," said the report, in the September 18th Journal.

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# *Clinicopathological Conference . . .*

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## **An Unusual Lesion in the Femur**

Prepared and Edited by

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### **DISCUSSANTS:**

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### **Clinical History**

E. H., a 28 year old Negro male, was admitted to the Medical College of Virginia Hospitals on 2-19-55 because of severe pain in his left leg subsequent to a fall he had sustained earlier that day while walking across a greasy kitchen floor. He lost consciousness for a few moments after the fall and awoke to find that he had severe pain in his left leg and knee.

The patient stated that he first had trouble with his left leg following a fall the year before. At that time he injured his left knee and eventually required an operation on the knee with removal of the medial meniscus. He had some relief of his knee pain for about two months but then discovered a "knot" on his left thigh which was somewhat tender to touch. The mass was said to be about the size of a hen's egg. He was seen by his local physician and biopsy and local excision were performed in March, 1954. A tumor mass about eight inches in diameter was found which extended down to the femur with involvement of the femoral shaft. The tumor was nodular and relatively avascular. There were some cystic areas within the tumor contain-

ing serosanguinous fluid. Removal of the tumor required considerable soft tissue dissection and following this the area of bone involvement was curetted thoroughly. The pathologic diagnosis of the tumor mass was "periosteal fibrosarcoma". The patient was advised to enter the Medical College of Virginia for further therapy but his family refused to allow this. He was initially seen at the Medical College of Virginia in December, 1954. The case was discussed at staff conference and, in view of the extensive nature of the process, the decision was made to treat him with radiation therapy. He continued to have considerable pain in his left knee and leg following completion of the radiotherapy but had been ambulatory at home until his present admission.

Family history and social history was non-contributory.

Past medical history included no previous hospitalizations or serious illnesses.

*Physical examination:* T. 98.6°, BP 145/95, P. 84, and R. 24. The patient was a well-developed, well-nourished, young Negro male lying quietly in bed in no acute distress. Fundiscopic examination was normal. The neck was supple and no masses were palpable. Mucous membranes were of normal color. The chest was clear to percussion and auscultation. The heart was of normal size and had regular rhythm. No murmurs were noted. The abdomen was flat and soft. There was no detectable enlargement of the liver or spleen and no intra-abdominal masses were felt. Lymphatics were normal. There was a firm, slightly tender mass on the lateral aspect of the left upper thigh measuring about 10 cm. in diameter. The skin overlying the mass was scarred from previous surgery and discolored by radiation therapy. The left knee was stiff and painful when attempts were made to flex the knee. The right extremity was normal. Neurological examination was within normal limits.



*Laboratory work:* Hemoglobin was 14 grams, WBC 6,950/mm<sup>3</sup> with a normal differential. The urine was yellow, cloudy, and alkaline with a specific gravity of 1.012. Albumin, sugar and acetone were not present. Microscopic examination revealed urine sediment within normal limits. Sedimentation rate was 26 mm., prothrombin concentra-



Fig. 1. The reduced density of the left hemipelvis suggests disuse of the left leg for months. A large, cystic, destructive lesion is seen in the left upper femur.



Fig. 2. The lesion is primarily in the upper diaphysis of the left femur. It is large, cystic and goes beyond the normal cortex. There is no clear, sclerotic margin. The changes were thought to be not older than a few months and were described as a "blow-out" lesion.

tion was 43 percent, BUN was 19 mg. percent, alkaline phosphatase 4 Bessie Lowry units, acid phosphatase 0.9 Bessie Lowry units, serum protein 7.5 grams percent with 4.8 grams percent albumin. Serology was negative.

A chest x-ray was reported to be within normal limits. An x-ray of the left femur and pelvis showed a pathologic fracture running transversely across 1½ cm. of a remaining bridge of bone at the lateral aspect of an extensively destroyed 10 cm. section of femoral shaft distal to the level of the lesser trochanter. There was a slight outward bowing deformity at the site of the fracture. (Figs. 1 & 2)

Because of the severe disability imposed upon this patient by the lack of function of the left leg, the histologic diagnosis, and the considerable amount of pain in the area of the tumor, he was advised to have a disarticulation of the left hip. After considerable discussion with the patient's family, this was performed on 3-15-55.

### Clinical Discussion

*Dr. Stanley McD. Elmore:* This young man was admitted to the Medical College of Virginia in February, 1955, with pain in his left leg. He had fallen the year before and sustained an injury to the same leg, apparently a tear in his medial meniscus. A medial meniscectomy was performed on the left knee. This event, retrospectively, seems irrelevant to what happened subsequently. In March, 1954, his physician found a tumor mass in his left thigh. This was excised at another hospital and the description is interesting in that it was described as being nodular as well as cystic, relatively avascular but containing serosanguineous fluid. This does not really define, in my mind, any specific tumor. It certainly doesn't sound compatible with the diagnosis that was brought forth as a result of this biopsy, that of periosteal fibrosarcoma. This lesion is typically a fibrous, hard nodule. Rarely are they described as being cystic so that the final diag-

nosis of this tumor mass is intriguing in terms of the gross pathology. The description and the diagnosis are incompatible and I suspect that the diagnosis of this tumor is incorrect. No lytic areas were described in the bone although the bone was curetted and there is no real evidence that this "periosteal fibrosarcoma" eroded the bone. It may well have involved the bone somewhat but it is not really clear as to how much destruction occurred.

He fell again two weeks prior to admission to Medical College and I am curious to know if he might have had epilepsy. He had had two falls in which he apparently lost consciousness and suffered leg injuries. Whether he hit his head or not at the time of his second fall is not clear. It occurs to me that this boy might well have had seizures, explaining some of these falls but this is irrelevant to the ultimate diagnosis. When he finally got to the Medical College in December, 1954, the case was discussed before the staff. Because of the extensive nature of the process and the evident histological diagnosis, it was decided to irradiate the tumor.

On the physical examination a firm, slightly tender, 10 cm. mass on the lateral aspect of the left thigh was found. The skin overlying the mass was scarred from previous surgery and discolored from radiation therapy. His left knee was stiff and painful when attempts were made to flex the knee. I think that this is probably due to the previous surgery that had occurred in the thigh about the knee, but even assuming that the meniscal excision had been quite successful, the quadriceps muscles bridging this lesion in the thigh had probably been scarred by surgery and irradiation so that the actual excursion of the knee was probably limited for the most part by soft tissue contracture. The neurological examination was normal.

The laboratory work is rather interesting. The significant findings here in my mind are that his urinalysis seems to be within normal limits and doesn't lead one to diagnose an occult renal tumor metastasizing to

the thigh. There were no cells in the microscopic examination, no microscopic hematuria. The sedimentation rate was slightly elevated, 26 mm. Assuming that was the corrected value, this is not abnormally high and I think compatible with such a large expanse of abnormal tissue in the thigh. It could be a result of the pathologic fracture which was described. There is some metabolic response on the part of the body to fractures and the sedimentation rate may be slightly elevated. I have no explanation for the prothrombin concentration of 43 percent as there are no physical findings to go along with this. The slightly elevated alkaline phosphatase, I believe, is a result of the pathologic process in his left thigh. The elevation might lead one to believe that there must be some type of bone forming lesion in this thigh, such as metastatic adenocarcinoma. However, most metastatic lesions usually result in a more significant elevation than four. You have to consider osteogenic sarcoma. This commonly causes elevation in the serum alkaline phosphatase and must be considered strongly in this case. The other bone lesions that can result in elevated alkaline phosphatase are Paget's disease of bone, which is not worth further consideration because of the patient's youth and the absence of characteristic x-ray findings.

*Dr. John H. Moon:* (Associate Professor, Department of Medicine)

Would you consider fibrous dysplasia?

*Dr. Elmore:* In about one-third of cases of fibrous dysplasia, the alkaline phosphatase may be elevated. There are several things against this diagnosis though. There is no previous history of fibrous dysplasia. Fibrous dysplasia ordinarily begins in the first or second decade and leads to bone deformities. We have no history of previous pathologic fractures, pain or deformity. Fibrous dysplasia really shouldn't start at this age; it usually starts before the maturation of the skeleton. Another possible cause for elevated alkaline phosphatase would be a metabolic disorder



such as osteomalacia which, without any other confirmative laboratory findings, doesn't seem to be relevant here either. I doubt that this 28 year old Negro has osteomalacia and the x-rays are not those of this process. This leaves me to consider metastatic carcinoma and osteogenic sarcoma. Relative to metastatic tumor, the physical examination yields no evidence of a primary site. I think we can rule out metastatic tumor here and consider chiefly osteogenic sarcoma.

According to the protocol, there was a pathologic fracture. It might be well to have a look at the x-rays and see what we are talking about.

The chest film is within normal limits. I see no evidence of metastatic or primary tumor in the lung fields. On the February, 1955, film there is certainly a striking demineralization of the entire left hemipelvis. (Fig. 1) The density of the two sides of the pelvis are very different, indicating long term disuse of the left lower extremity. This man has not been weight-bearing on this for some time. He certainly does have a deformity of the left femur. There appears to be discontinuity of the cortex or fracture, and this confirms the protocol as described. This is a fairly large lesion described as being 20 centimeters in diameter and the most impressive thing about this is that it is very expansile, very lytic and that it goes beyond the normal confines of the cortex. (Fig. 2) The cortex has not been expanded over a long period of time as you might expect to see in fibrous dysplasia. Whatever happened here, happened fairly rapidly in a period of a few months. There has been no long term chronic process going on associated with remodeling of bone. It is what we might term a "blow-out" lesion.

In this age group we must think of other types of bone tumors. There are several benign ones that must be considered. One would be chondromyxoid fibroma. These are usually seen in the second and third decades and certainly in a 28 year old it

could be a chondromyxoid fibroma except that it is really not close enough to the metaphyseal area to be considered strongly. The tumor is more in the diaphyseal portion of the femur rather than the metaphysis. Chondromyxoid fibromas are expansile, eccentric and rarely produce bone. They do cause pain and may result in pathologic fractures. The location of our lesion is against that diagnosis, as is the lack of sclerotic margin. There is not a clear sclerotic margin. Most of the chondromyxoid fibromas should have a fairly well defined sclerotic, scalloped margin. They rarely expand into the soft tissue like this.

Giant cell tumor must be considered in this age group. It normally begins in the metaphyseal area, is expansile and usually crosses the area of the old epiphyseal plate. Thus, our location today is against giant cell tumor. Also, it is usually found at the other end of the femur, in the distal femur, or proximal tibia rather than in the proximal femur. However, if our lesion were a little more up in the neck region, it would be highly suggestive of giant cell tumor. A giant cell tumor also is rather expansile, but usually not so much as we see here. There usually isn't well developed shell of bone with this much soft tissue protrusion in a giant cell tumor. There also seems to be some active bone production in our patient's lesion.

Periosteal fibrosarcoma, I think I ruled out earlier. This does not appear to be a fibrosarcoma because of the bone formation that is occurring. The principle difference between a fibrosarcoma and an osteogenic sarcoma is whether or not the tumor forms bone. This tumor, radiographically, is forming bone. A periosteal fibrosarcoma can be rather lytic, but it is usually more slow growing also. Fibrosarcoma may be latent for many months up to two years in some cases, so that symptoms becoming evident rather early would be against fibrosarcoma.

Osteogenic sarcoma has to be considered



very strongly. Certainly this man does fall into the age group for osteogenic sarcoma. It is a bone producing tumor and it is lytic. It is in an appropriate location although most osteogenic sarcomas are in the distal femur rather than the proximal femur. Two features characteristic of osteogenic sarcoma are missing. One is "Codman's triangle". This is the result of a rapidly expansile lesion elevating the periosteum leading to bone formation at the juncture of the raised periosteum and cortical bone. It is seen in many types of rapidly expansile lesions. The other absent classical feature is the "sun-burst" appearance, the rays of new bone. One doesn't see much bone formation in the total mass of this tumor. Most of the bone formation is at the periphery; osteogenic sarcoma has more bone production within its substance rather than at the periphery. For these reasons and the very low alkaline phosphatase, I think this is not osteogenic sarcoma.

This brings me to what I really think it is, an aneurysmal bone cyst. All of the features are compatible with that diagnosis. His age is correct; it occurs in the second and third decades, principally. It has this very characteristic type of x-ray appearance. The term "blow-out" is quite appropriate. The name is a misnomer. It isn't really an aneurysm in terms of the vascular aneurysm which has a pulsating blood flow through it, although blood does flow through an aneurysmal bone cyst. It is not the kind to be rapidly fatal if it blows out. It derives its name because of the similar appearance that one sees in abdominal or the thoracic aneurysms in which there is often a thin rim of calcification at the periphery of the aneurysm sac. This is how an aneurysmal bone cyst appears and how it got the name. It is not a true cyst.

*Dr. Moon:* How can you rule out the true solitary cyst of bone in this case?

*Dr. Elmore:* I should have mentioned solitary cyst of bone in the differential diag-

nosis. The solitary cyst is usually seen in a younger age group, usually at the ends of the long bones, of the distal femur or the proximal humerus. It is usually a more central lesion. It is expansile, but it is not truly lytic. It has sclerotic margins and actually is filled with either fluid or gas. This doesn't appear to be a solitary cyst. This lesion is rapidly expansile whereas a solitary cyst is not. A solitary cyst is usually not painful until pathologic fractures occur through it. The lesion we are considering was symptomatic before pathologic fracture occurred, as far as I know. So an aneurysmal bone cyst would be more appropriate in this case. One does get the suggestion that this lesion is loculated to a certain degree. There may be septa of soft tissue in our lesion and in truth the aneurysmal bone cyst is filled with blood but not arterial blood. It is probably filled with venous lakes that flow fairly slowly but it does flow. These spaces are lined with fibrous tissue rather than true vascular endothelium. The exploring surgeon is likely to find large lakes of blood, cystic areas divided by fibrous septa and connected to the vascular system at both ends. There may be some blood clots. There is usually evidence of new bone formation, principally at the periphery, and there may be also bone formation in some of these septa.

Concerning treatment, if we saw this man today, we might pursue treatment in a different fashion. It has been shown that aneurysmal bone cysts will heal or tend to disappear if one can separate them from the constant flow of blood through the cysts. Surgical isolation from the regular vascular tree will suppress the expanding, destructive qualities of the lesion. Radiation was appropriate and it could be that the radiation treatment was given with the thought that this was an aneurysmal bone cyst and it may have been so large that it didn't respond well to the amount of radiation that was given. I would suggest if we saw this man today that another attempt surgically might be

done to isolate this lesion and attempt to save the leg. Failing at this, then certainly the hip disarticulation would be appropriate. I suspect that this man is very much alive today.

*Dr. Moon:* Could we have the senior students' diagnoses?

*Dr. Eli Rose:* (Senior Student) Recurrent fibrosarcoma or osteogenic sarcoma were the diagnoses offered by most of the students.

#### WARD DIAGNOSES:

*Periosteal fibrosarcoma*

*Questionable osteogenic sarcoma*

#### DR. ELMORE'S DIAGNOSIS:

*Aneurysmal bone cyst of femur*

*Dr. E. Richard King:* I found in the patient's radiation therapy record from 1954 that he was treated on the basis of a diagnosis of periosteal fibrosarcoma. He received low energy radiation. The skin dose was 2500 r to each of the anterior and posterior ports and his tumor dose was about 3000 r.

Dr. Elmore has been quite kind to state that radiation therapy is often indicated for aneurysmal bone cyst. Radiotherapist very rarely treat this lesion anymore. Irradiation is admittedly not now the treatment of choice for aneurysmal bone cyst.

*Dr. Moon:* Could the radiation and the trauma of the biopsy have appreciably altered the x-ray appearance?

*Dr. King:* This last film was made about three months after the completion of the therapeutic course of x-ray. I don't think they would have affected the roentgenographic appearance.

### Pathological Discussion

*Dr. Saul Kay:* I am sorry that Dr. Elmore wasn't present at the time of the patient's original problem because a lot of erroneous diagnoses may have been avoided.

The pathologist who made the diagnosis of periosteal fibrosarcoma from the first biopsy was in error. I can't take any credit; after the irradiation and amputation, I made the erroneous diagnosis of osteogenic sarcoma. Dr. Elmore should be congratulated because aneurysmal bone cyst is the final diagnosis. I think if all concerned had been more familiar with this condition ten years ago, the diagnosis would have been made. We have had only four examples of aneurysmal bone cysts here in the past 17 years, so it is not something that you see every day.

Look at the bone from the dissected specimen: notice that it corresponds well with the x-rays. (Fig. 3) It is a "blow-out" lesion; this is a major clue in making this diagnosis.



Fig. 3. The resected femur (shown in part) contains a primarily diaphyseal lesion that corresponds closely to the roentgenogram. (See Fig. 2)

The aneurysmal bone cyst is also called "atypical giant cell tumor" and "subperiosteal giant cell tumor". These names are



only partly justified because microscopically there are many giant cells similar to those seen in a true giant cell tumor. It is otherwise not at all like that lesion. Dr. Elmore gave you the differential features between the two lesions. The giant cell tumor occurs at the epiphysis; if a tumor is not in the epiphysis you should think of something else. The present case is not in the epiphysis.

On microscopic examination we note the fibrous septa and the large spaces which are filled with blood. (Fig. 4) This is not stag-

patible with that fact was the presence, microscopically, of a tremendous amount of fibrotic reaction and of hemosiderin pigment from old blood that has been collected in histiocytes. The host bone adjacent to the lesion was distinctly osteoporotic.

Our diagnosis, our revised diagnosis, is aneurysmal bone cyst.

*Dr. Moon:* The patient is still with us and was seen here as recently as early this month. He has been reasonably well reha-

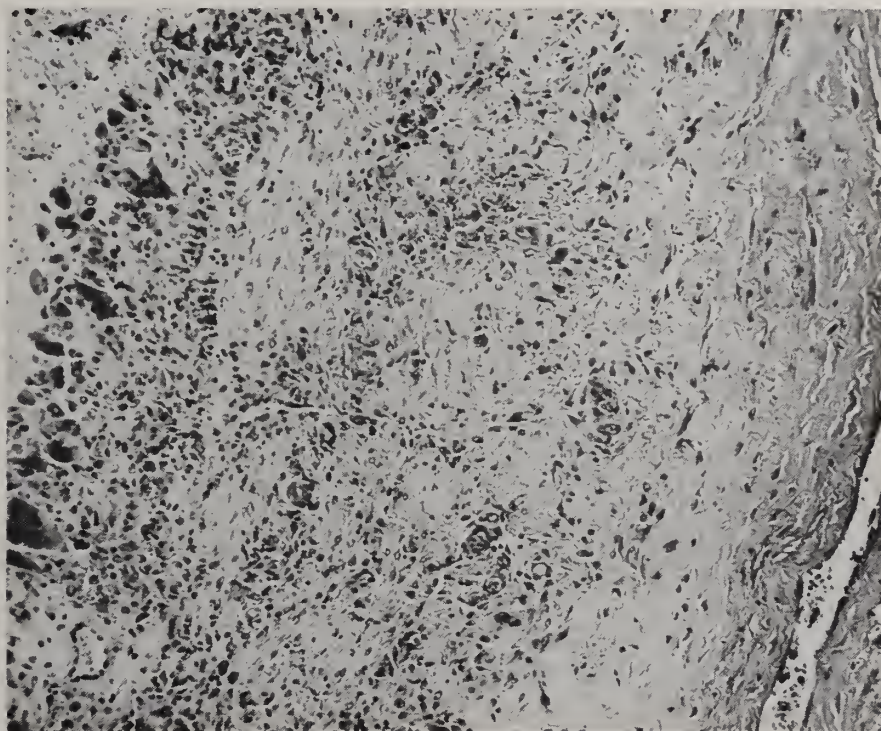


Fig. 4. One of the many facets of the histologic appearance of an aneurysmal bone cyst. This portion of the lining of a blood sinus (left) features many multinucleated giant cells. Poorly organized fibrous tissue and collagen are abundant. A small blood sinus is present (lower right). (Magnification from approximately 140 X; hematoxylin and eosin)

nant blood, but free flowing. There is tremendous destruction of the shaft and the inferior trochanter by this "blow-out" lesion, this expanding lesion. The only excuse that I might have in making a diagnosis of osteogenic sarcoma when I originally studied this lesion was that the patient had had radiotherapy and the usual microscopic features were somewhat altered. Remember that the patient had been previously operated upon and the bone curetted. Com-

bilitated as far as his leg is concerned.

I didn't understand, Dr. Elmore, exactly what kind of isolation of the bone's internal circulation you do with these patients. Do you ligate something or curette the lesion?

*Dr. Elmore:* One can decrease the blood flow through these cysts by just causing clotting, if nothing else, then letting the clot organize. This would probably not be feasible in the long run for such a large



lesion but I think it should have been attempted before amputation of the leg. This combined with curettage is the treatment of choice with such a large lesion.

*Dr. Moon:* Do you inject sclerosing material?

*Dr. Elmore:* We don't inject anything; we try to plug off the medullary flow as best we can, with bone wax or bone graft. If we can prevent the exchange of blood in the tumor, it will go away.

*Dr. Page Hudson:* (Associate Professor, Department of Surgical Pathology)

This lesion certainly isn't a neoplasm, is it? Do you consider this a developmental defect? Could it have been secondary to trauma?

*Dr. Elmore:* These are unanswerable ques-

tions at this stage in our knowledge. Trauma seems unlikely as an etiological factor. Dr. Aegerter<sup>1</sup> believes that this represents a true hamartomatous proliferation of cells that grow locally without threatening the life of the patient. This would not be, then, a true neoplasm, but a vascular malformation or variant of hemangioma.

#### FINAL ANATOMICAL DIAGNOSIS:

*Aneurysmal bone cyst of femur, left.*

#### REFERENCE

1. Aegerter, E. and Kirkpatrick, Jr., J. A.: Orthopedic Diseases. 2nd Edition, W. B. Saunders Company, Philadelphia, 1964.

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### Study of Patients with Constrictive Pericarditis

The cooperation of physicians is requested in the referral of patients for a study of constrictive pericarditis being conducted by the Metabolism Branch of the National Cancer Institute at the Clinical Center of the National Institutes of Health in Bethesda, Maryland.

Of interest are patients with constrictive pericarditis associated with hypoalbuminemia and edema. Studies on these patients will be directed at determining the relationship of the hypoalbuminemia and edema to protein-losing gastroenteropathy, lymphatic abnormalities, and immunological defects.

Selected patients will be admitted to the Clinical Center and receive a full diagnostic work-up. Upon completion of their studies,

patients will be returned to the care of the referring physician who will receive a full report of the studies done. Where possible, recommendations for therapy will also be made available to the referring physician, or if circumstances permit, appropriate therapy will be instituted at the National Institutes of Health.

Physicians interested in having their patients considered for admission to this study may write or telephone: Warren Strober, M.D., or Thomas A. Waldmann, M.D., Clinical Center, Room 4N116, National Institutes of Health, Bethesda, Maryland 20014, Telephone: 656-4000, Ext. 63622 (Area Code 301)

MACK I. SHANHOLTZ, M.D.  
*State Health Commissioner of Virginia*

## **Virginia's Medical Rejective Program**

Physical and mental defects are currently accounting for over 17 per cent of the rejection rate for Virginia's military draftees. Primary causes are diseases and defects of the bones and organs of movement, diseases of the circulatory system, overweight, and psychiatric disorders. By sections of the country, the South (which includes Virginia) turns in the best physical record, but the rejection rate for its young men examined by the Armed Forces is still excessively high.

On January 1, 1964, President Johnson released the Report of the Task Force on Manpower Conservation. He expressed utmost concern that if all the nation's male youth were examined upon registration for Selective Service, one-third would be disqualified for military service. This concern about the well-being of our greatest asset, the youth of the nation, prompted Congress to appropriate monies for a program that would assist medical rejectees interested in the correction of their medical defects. Administered by the U. S. Public Health Service, a program has been established in each state for the counseling, referral and follow-up of medical rejectees on a voluntary basis. This provides the rejectee with the opportunity to be brought into contact with the appropriate health resources of his community. The funds appropriated did not provide for the treatment of the rejectee.

Because of its wide experience in working with the medical profession and the variety of voluntary and public medical service agencies with which it cooperates, the State Health Department has from the beginning, and at the Governor's request, been the administering agency for the program in Virginia.

The objectives of the program are to provide counseling and referral services to selective service registrants rejected for military service by the Armed Forces for medical reasons. Specific procedures are:

- screening and evaluation of Armed Forces Examining Station medical records of men rejected for military service for medical reasons;
- counseling these men concerning health service needs, as indicated by their medical records;
- referring these men to health and rehabilitation resources for appropriate services; and
- following up each case as required.

At the time a man is rejected for military service, he is interviewed by a State Health Department counselor, located in the examining station, and an attempt is made to motivate him to seek medical treatment for his defect. If agreeable with him, he is referred to the local health department serving his home area. At the local health department, he is counseled as to what resources for treatment are available to him and encouraged to avail himself of these resources.

Periodic follow-up is made to determine if treatment was received and if so, his current condition.

Since the inception of the program, approximately forty per cent of the rejectees' records have been forwarded to the local health departments. The remainder were either already under treatment, had defects which were of a permanent type or were excludables—either too tall or too short, missing a limb, defective eyesight which has

*(Continued on page 722)*

## **A Forward Look for a New Virginia Psychiatric Facility**

The Northern Virginia Mental Health Institute (Northern State Hospital) is a State facility opening December 4, 1967, in Northern Virginia. It has the mission of intensive treatment for acute psychiatric disturbances. An active in-patient program, a day-care program, a night-care program, an out-patient program, and an adolescent unit are all being established. This facility will serve the geographical areas of Northern Virginia which consist of Arlington, Fairfax, Loudoun, and Prince William Counties, and the Cities of Alexandria, Falls Church, and Fairfax. The hospital is of the completely open type with no locked doors or limiting physical structures which would constitute impairment of the responsibility or relative freedom of the individual patients.

The professional staff will consist of eight psychiatrists, seven social workers, five clinical psychologists, seventy-seven individuals on the nursing service, two occupational therapists, one recreational therapist, an electroencephalograph technician, and laboratory personnel. An active volunteer program with a full-time director will be established. The administrative organization will include an assistant superintendent for administration, an accounting-cashiering office, supply services, statistical services, buildings and grounds, housekeeping, transportation, and food services. A majority of the professional and administrative staff have already been hired. The accent has been on finding people with high level pro-

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ALLERTON, WILLIAM S., M.D., *Superintendent, The Northern Virginia Mental Health Institute, Falls Church.*

Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

WILLIAM S. ALLERTON, M.D.

fessional and administrative training, with an emphasis on youth, imagination, and spontaneity, coupled with sound professional and administrative judgment.

## **In-Patient Service**

There are only 120 in-patient beds set aside for hospitalized patients. Such patients will usually be voluntary but occasionally hospitalized by commitment. A policy of a maximum stay of six months has been established with an expected average period of stay between 40 and 50 days. This facility will be devoted to the care of the acutely ill and will not be able to care for patients requiring custodial type treatment. Beds will be of a day-couch type and therefore no facilities will be available for the care of the physically ill or the non-ambulatory. It is anticipated that admissions will be referred from the existing five Mental Hygiene Clinics serving the same geographical area; from private physicians, from the clergy, and from other health and welfare agencies. A 24 hour emergency service will be available. During the day, however, most patients should go initially to the mental hygiene clinic serving their area for evaluation prior to consideration of hospitalization. Under emergency conditions, however, the hospital stands ready to evaluate any patient requesting or being considered for admission. An admission committee will be established within the facility and all referred individuals will be seen prior to a decision made by the professional staff as to whether or not the individual is a suitable candidate for the therapeutic program. A mandatory requirement will be placed on the families of patients being considered for admission. This requirement will constitute a contract between the family and the hos-



pital that if admission is decided upon, the family must be willing to participate in the therapy program themselves, at least on a once a week basis. The service thus offered will include any member of the family that the staff of the facility feels requires some therapeutic attention or therapeutic participation. Failure of family members to participate in the therapeutic program will mean that the patient cannot be admitted or will have to be transferred elsewhere. Medical and judicial authorities planning admissions or commitments to this facility will be informed of this policy so that they can evaluate whether or not the individual and his family will all be willing to participate in the treatment program. Individuals committed to the Institute who are not considered to be suitable candidates for the therapeutic program will be transferred to another State facility, unless the family prefers transfer to a private facility. The therapeutic program of this Institute will consist of diagnostic evaluation, group, milieu and individual psychotherapy, pharmacological therapy, somatic therapy, occupational therapy, and recreational therapy. All the staff members of the facility are considered important members of the therapeutic milieu. The hospital's complete openness will be coupled with a general attitude of positive expectancy for recovery, and a positive expectancy for responsibility on the part of the patient will be engendered in the Institute.

### **Day-Care Program**

At the time of the opening of this Institute, a day-care program will be established. It is anticipated that this will begin with some twenty to thirty patients, eventually expanding into a large scale program which should be far in excess numerically of the in-patient census. Day-care patients must be ambulatory but some patients with more chronic types of illnesses will be acceptable in this program. Active group therapy endeavors, occupational therapy and milieu

therapy will be the mainstay of this program. There exists in any community, a large number of individuals who make a fairly adequate adjustment in their family circle, but who are unable for psychological reasons, to make a proper adjustment occupationally or socially in the community. A day-care program should provide an optimum atmosphere toward working out some of these problems. Here again the eventual goal is return to productivity within the community.

### **Night-Care Program**

After the in-patient service and the day-care programs are well organized, a night-care program will be instituted. This program will allow many individuals who adjust relatively well in their occupational or vocational fields but are having serious family difficulties, to spend the evenings and nights in this Institute while working full-time. This program could include geriatric patients, some chronic schizophrenics, adolescents, as well as problem drinkers, and people with other difficulties who might lend themselves to night-care treatment. A high caliber professional staff will be available at night to work in this program as well as to work with a continuing evening and night aspects of the therapeutic program for in-patients.

### **Adolescent Program**

Young people with a minimum age of 13 to 14 will be admitted as in-patients. A group of from 20 to 40 beds will be set aside predominately for adolescent patients, depending on the need. All of the adolescent individuals considered for admission, will be pubertal or post-pubertal. It is anticipated that some cases of adolescent schizophrenia, adolescent depression or adolescent acting-out will be included in the in-patients of the adolescent unit. A staff of psychiatrists, social workers and psychologists competent in the area of adolescent therapy, will be assigned to this unit. Relatively brief periods

of hospitalization are anticipated with early motivation for return to reintegration in the family and in educational facilities for those who are accepted as in-patients. Occasional patients will be allowed to remain as in-patients while continuing in school. Adolescents will also be admitted to the day-care program and to the night-care program.

### **Relationship to Existing Community Health Services**

The Northern Virginia Mental Health Institute will have a horizontal relationship with existing mental health facilities of the State, County and Local Governments. The majority of first echelon preventive psychiatry must be accomplished by Mental Hygiene Clinics and private psychiatrists in the area. Certain types of out-patients can, however, be referred to this facility. A program of coordinated effort is contemplated with all the existing Mental Health facilities. This institute should provide an acute intensive treatment program for in-patients, day-care patients, night-patients, and adolescents which will reduce the admission loads to larger type state mental hospitals while providing shorter term, more intensive treatment for the individuals referred from the local communities. The prevention of disability and the early motivation for reintegration into society are the prime missions of this Institute.

### **Training and Research Mission**

The Institute intends to establish early relationships with various academic and training facilities in the District of Columbia Northern Virginia Metropolitan area. An eventual residency training program in psychiatry is anticipated as well as clinical psychology internship programs and social work field placements. Nursing affiliations will be established with existing nursing training facilities in the area. Research programs in studying techniques and results of intensive treatment programs will be instituted as soon as is practicable. It is anticipated that demonstration projects and other research programs funded by the Federal Government will be applied for shortly after the opening of the Institute.

### **Summary**

The State of Virginia has established an acute, intensive treatment program for adults and adolescents which should be a forward step in the prevention of disability and in the avoiding of chronicity for individuals with acute emotional and mental illnesses. With the ratio of professional staff to in-patients of about one to one, a maximum effort can be expended toward insuring early recovery and the prevention of chronicity.

### **Public Health**

*(Continued from page 719)*

already been corrected to the maximum extent possible, or homosexuals.

Program results have been gratifying as approximately fifty per cent of the men whose records have been forwarded to the

local health department have availed themselves of treatment. Much of this success has been due to the excellent cooperation of private physicians throughout the State, particularly in volunteering information needed for follow-up on the rejectees.

W. K. WU, M.D.

## **Inborn Metabolic Errors of Urea Cycle**

A great deal of interest has developed in hereditary errors of metabolism in the biosynthesis of urea since Allan et al. (1958) first described a new clinical disorder characterized by mental retardation and aminoaciduria. The amino acid excreted in the urine was subsequently identified as argininosuccinic acid, a known intermediate in the Krebs-Henseleit (urea) cycle. Within the past eight years hereditary errors of metabolism involving the sequential steps of the urea cycle (see below) have been reported in patients, most of whom were under the age of five years. A new field of clinical investigation has been opened in order to detect these diseases at an early age so as to institute proper treatment.

The five sequential steps in the biosynthesis of urea are:

- 1) Ammonia + bicarbonate  $\xrightarrow[\text{synthetase}]{\text{carbamyl phosphate}}$  carbamyl phosphate
- 2) Carbamyl phosphate + ornithine  $\xrightarrow[\text{transferase}]{\text{ornithine carbamyl}}$  citrulline
- 3) Citrulline + aspartate  $\xrightarrow[\text{synthetase}]{\text{argininosuccinate}}$  argininosuccinate
- 4) Argininosuccinate  $\xrightleftharpoons[\text{arginase}]{\text{argininosuccinase}}$  arginine + fumarate
- 5) Arginine + H<sub>2</sub>O  $\xrightarrow{\text{arginase}}$  ornithine + urea

Metabolic blockage of urea cycle at any one step is accompanied by an increase in the blood or urine of the metabolites. Each disorder is named after the substance accumulated, i.e., hyperammonemia associated with carbamyl phosphate synthetase deficiency, hyperammonemia associated with ornithine carbamyl transferase deficiency, citrullinuria, argininosuccinic aciduria and argininuria.

Freeman<sup>2</sup> (1964) described carbamyl phosphate synthetase deficiency in a three-month-old child who was the only survivor among six pregnancies of unrelated parents. A marked elevation of blood ammonia, an alteration of neurologic status on a normal protein diet, and a deficiency of carbamyl phosphate synthetase in the liver was found. The deficiency seemed to be genetically determined. The child fed with proprietary milk formulas or casein hydrolysate presented symptoms such as vomiting, lethargy and dehydration which subsided promptly following administration of protein free fluid. In this disorder, the blood urea nitrogen and total urea excretion are within normal limits.

Russell et al.<sup>3</sup> (1962) reported a metabolic disorder characterized by chronic ammonia intoxication, mental retardation and a marked deficiency of ornithine carbamyl transferase. The patients, age 20 months and two years old respectively, were first cousins. They presented with episodes of vomiting followed by lethargy and stupor. The blood and cerebrospinal fluid ammonia concentrations were extremely high. There was no evidence of liver failure, nor of abnormally increased absorption of ammonia from the intestinal tract. The ornithine carbamyl transferase activity in the liver by biopsy was found to be greatly depressed. A diet low in protein drastically reduced the blood ammonia level.

Citrullinuria is a metabolic disorder characterized by mental and physical retardation, and marked accumulation of citrulline in the urine, blood and spinal fluid. McMurray et al.<sup>4,5</sup> (1962) first described a mentally retarded boy from a consanguineous marriage. The blood, urine and spinal fluid showed marked excess of the amino acid citrulline. This was identified by two-di-



mensional paper chromatography and confirmed by color reaction, infra-red spectra and column chromatography. A deficiency of the enzyme converting citrulline to argininosuccinate was later demonstrated by liver biopsy, and thus pinpointed the defect at step 3 of the Krebs-Henseleit cycle (see above). The patient showed a marked increase of blood ammonia concentration in the post-absorptive state. Dietary studies showed a direct relationship between protein intake and urinary excretion of citrulline and urea.

Argininosuccinic aciduria is characterized by severe mental disturbance, roughness of skin, brittle hair, and the presence of argininosuccinic acid in the urine. Allan et al. (1958) first described the disease in two siblings age three and six years. Hence the disorder appeared to be hereditary in nature. The fasting blood ammonia level was elevated. A deficiency of the enzyme argininosuccinase which splits argininosuccinate into arginine and fumarate has been demonstrated in blood cells in some patients.<sup>1,6,7</sup> The amino acid was identified by paper chromatography. Dietary restriction of protein reduced urinary excretion of argininosuccinic acid.

Argininuria is characterized by mental disturbance, convulsions, hepatomegaly, alterations of the hair, and the presence of arginine in the urine, blood and spinal fluid. Serrano<sup>8</sup> (1965) first described a 20-month-old mentally retarded child from a consanguineous marriage. The blood, urine and spinal fluid showed a marked elevation of the amino acid arginine. The arginine was identified by chromatography. The addition of arginine to the diet caused clinical deterioration of the patient. The enzymatic defect in this disorder, although not reported, would most likely be a deficiency of the enzyme arginase (Step 5). Recently, a closely related syndrome in which blood ammonia levels were elevated by the lysine inhibition of arginase was described by Colombo<sup>9</sup> and associates.

In all the disorders described above, there is a disturbance of intermediate steps in the conversion of ammonia to urea. In all of these conditions except argininosuccinic aciduria with monilethrix, the blood ammonia is raised. Thus, the blood ammonia determination provides a useful means for their diagnosis.

There are three principal ways to determine blood ammonia: (1) microdiffusion,<sup>10</sup> (2) ion exchange<sup>11</sup> and (3) enzymatic.<sup>12</sup>

In the microdiffusion method, ammonium ion present in blood is converted into ammonia by the addition of alkali and diffuses into an acid. Some difficulties which contribute to inaccurate results are: (a) ammonia production beginning shortly after the blood is shed because of deamination reactions, (b) formation of ammonia by the action of alkali on proteins and other organic nitrogenous substances normally present in blood, (c) certain volatile amines such as n-butylamine and isoamylamine also diffuse at about the same rate as ammonia. The determination should be begun a few minutes after collection of the blood, and empirical correction factors should be used to calculate the amount of ammonia formed after taking the blood and before the actual procedure is begun.

The ion exchange method eliminates the last two difficulties mentioned above, but the production of ammonia by deamination reactions still makes it necessary to carry out the determination shortly after the blood is drawn.

The enzymatic determination of blood ammonia with the use of glutamate dehydrogenase provides a greater degree of specificity since methylated amines do not react in this enzyme system and the method requires no treatment with alkali. The test, however, has the disadvantage of being much more expensive and also somewhat more involved.

Laboratory procedures are available for the determination of the individual enzymes

associated with the five disorders of the urea cycle.

### Summary

A short discussion of the metabolic errors associated with lack of enzymes in the urea cycle is presented. Symptomatology, laboratory diagnosis and treatment are reviewed briefly.

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### Pregnancy and High Altitude

Women should stay below the altitude of 10,000 feet in the last three months of pregnancy, advises a Denver physician in the *Journal of the American Medical Association*.

The unborn child may be damaged by lack of oxygen if his mother exceeds this altitude in the mountains or in an unpressurized airplane, wrote E. Stewart Taylor, M.D., a specialist in obstetrics and gynecology, in the September 18th *Journal*.

Skeletal deformities, lack of teeth and hair, brain impairment, and occasionally even death of the fetus have been attributed to lack of oxygen.

"I recommend that women who are pregnant and in the last trimester stay below 10,000 feet in the mountains and that they do not travel in an unpressurized plane while in mountain country. Women in the last three months of pregnancy who are traveling at altitudes over 10,000 feet should

breathe supplemental oxygen to protect the fetus if the plane is not pressurized and if travel in an unpressurized plane cannot be avoided."

(Most large, commercial planes are pressurized, and thus provide the necessary oxygen. A woman in the last three months of pregnancy should consult her physician before flying, however.)

Dr. Taylor's comments in the *Journal's* Questions and Answers section were in reply to a question from a physician in Ethiopia.

High-altitude hazards are of particular concern in Ethiopia the physician pointed out. Much of the country is a plateau, 6,000 to 9,000 feet high. Medical facilities are isolated, and depend on small planes for communication. This means they often have to fly above 10,000 feet. In this case, supplemental oxygen should be available for pregnant women passengers.

# *The Medical Society of Virginia . . . .*

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## **Minutes of Council**

A meeting of the Council of The Medical Society of Virginia was held on Saturday, September 9, at Society headquarters.

*Members Present:* Dr. K. K. Wallace, Dr. Thomas W. Murrell, Jr., Dr. Alexander McCausland, Dr. Mack I. Shanholtz, Dr. Harry J. Warthen, Dr. W. Callier Salley, Dr. F. Ashton Carmines, Dr. William S. Hotchkiss, Dr. William R. Hill, Dr. William Grossmann, Dr. Harry B. Stone, Jr., Dr. Dennis P. McCarty, Dr. W. D. Liddle, Dr. W. W. Walton and Dr. Carl P. Parker, Jr.

*Others Present:* Dr. F. H. McGovern, Dr. James M. Moss, Dr. Thomas S. Edwards, Dr. W. Linwood Ball, and Dr. Allen Barker.

## **Health Insurance Council**

Dr. Howard McCue, Chairman of the Virginia Liaison Committee to the Health Insurance Council, briefly reviewed the activities of that body—with particular emphasis on its Sub-Committee for Professional Relations. He brought out that the Health Insurance Council is, for the most part, composed of all the major companies writing this type coverage. The health insurance industry wants very much to develop the best possible working relationship with physicians and the Committee on Professional Relations has been set up for the purpose of resolving any differences which might occur. A number of problems have already been referred to that particular Committee and good results have been obtained.

It was brought out that some companies are refusing to honor separate billings by hospital-based physicians. Dr. McCue stated that his Committee is working on this problem and was hopeful that something could be worked out. He called attention to the fact that a Special Review Committee of The Medical Society of Virginia has been working with the insurance industry for a number of years where fee problems are involved. Most of these problems are associated with major medical policies.

## **Blue Shield**

Council was advised that the new 7510 Contract offered by the Virginia Medical Service Association had caused considerable controversy in the area served

by the Plan. Dr. Murrell reported that the Richmond Academy of Medicine had held a special meeting on the Plan and that considerable opposition had been voiced. Perhaps the greatest opposition was to the designation of participating and nonparticipating physicians. The setting up of such categories was believed by many to be discriminatory—not only against physicians but also against patients. It was also believed that many physicians did not understand the 90th percentile system on which the usual and customary approach is based. As a result, the Academy had adopted a resolution opposing the 7510 Contract and officially expressing its opposition to the differentiation between participating and nonparticipating physicians.

Attention was called to the fact that The Medical Society of Virginia appoints twelve members of the Board of Directors of the Virginia Medical Service Association. Dr. Wallace indicated that some discontent had been expressed over the long terms served by some Board members. There was some feeling that no Board member should serve more than two consecutive three-year terms.

During further discussion of the Richmond Academy of Medicine resolution, it was learned that a special Ad Hoc Committee had been appointed by the Virginia Medical Service Association to study the resolution in detail and seek ways of resolving the problem. This Committee has already held one meeting.

Council was told that it seemed most important that the Society express itself on prepay plans. Dr. Salley asked that Council emphasize once again its support of the prepayment philosophy. He asked whether the Society really supports the over-all philosophy of prepay insurance or merely is in favor of providing a mechanism designed to meet the needs of low income groups. Council was reminded that the Society is on record that everyone should receive adequate medical care regardless of ability to pay.

During the ensuing discussion, a number of points were made. Blue Shield was said to have been the greatest obstacle in the path of socialized medicine during the past twenty years. It was stated that Blue Shield, at its inception, was really a pioneer in the health insurance field and was not forced to compete with commercial companies as it must



today. There was general agreement that Blue Shield might better serve the physician if it were divorced from Blue Cross. The extremely close connection poses many obvious problems.

*A motion was then offered by Dr. Grossmann calling for The Medical Society of Virginia to reaffirm its endorsement of the philosophy of full voluntary prepay health insurance. The motion was seconded and adopted.*

A request was then made for a roll call vote. There was some discussion as to what purpose such a vote might serve and it was decided to forego such a call unless a special request was received from the dissenting group.

Dr. Grossmann expressed the opinion that the President should make his appointments to the Blue Shield Board without undue pressure or coercion from any group. There was some feeling that all Blue Shield Board members—not just those appointed by the Society—should serve limited terms. It was agreed that the By-Laws of the Virginia Medical Service Association should be amended in such manner as to provide reasonable limitations.

*It was then moved by Dr. Carmines that Council express its opposition to any differentiation between participating and nonparticipating physicians where Blue Shield fees are concerned. Following considerable discussion, the motion was adopted with Dr. Salley requesting that a negative vote be recorded.*

### Drug Dispensing

Dr. Walton reported that a Special Committee of The Medical Society of Virginia has been working very hard to solve problems surrounding the dispensing of drugs by physicians.

He stated that Mr. Duval and Mr. Miller have prepared a number of proposed amendments to the Pharmacy and Drug Act and these are presently under consideration by groups representing the Virginia Pharmaceutical Association, State Board of Pharmacy, and State Board of Medical Examiners. Two more meetings are scheduled for late September.

In reviewing the proposed amendments, Dr. Walton pointed out that the key statute in Section 54-481 which contains the words "if such supply is not made as a sale". It was believed that striking this language from the statute would solve most of the problems. He went on to state that the working relationship between physicians and pharmacists is generally good and that regular meetings for discussing mutual problems have been suggested.

### Abortions

Council was advised that the Executive Committee recently met with representatives of interested groups—medical and otherwise—for the purpose of obtaining their thoughts and recommendations concerning Virginia's present law dealing with abortion. The present law is quite inflexible—permitting abortion only when the life of the mother is at stake.

Dr. Wallace expressed the opinion that the policy statement adopted by AMA in June covered the subject very well. It was his feeling, however, that the preamble should include a statement that any legislation should make it clear that the physician who, for moral or religious reasons, refuses to perform or recommend an abortion cannot be held liable for malpractice. He went on to state that AMA had carefully considered every word in its statement and that the word "documented" provided the protection always so necessary.

A motion was then introduced by Dr. Hotchkiss which would have The Medical Society of Virginia adopt the AMA policy statement on therapeutic abortion with the addition of Dr. Wallace's suggestion concerning malpractice to the preamble and with the substitution of the words "is likely to" for the word "may" found in the second exception to induced abortion. The motion was seconded.

There followed considerable discussion during which Dr. Salley read that part of the report of the AMA Board of Trustees which would leave the matter of legislation up to the several states. Dr. McCausland stated that The Medical Society of Virginia was very much in the public eye on this question and that every step should be careful and deliberate. He went on to say that this question represented the most important decision to come before Council in his experience and that implications of decision exceed the bounds of professional competence. He also stressed the fact that the abortion problem is not merely a medical problem but involves religious and social considerations of equal importance. Dr. McCausland added that the primary purpose of medicine has always been to save life and that the Society should not seek a change in the law nor permit medicine to be labeled the reason for seeking and justifying a change.

The thought was also expressed that the Society should be active in an advisory capacity only—especially where legislation is concerned. Mentioned also was the fact that the medical profession is rapidly becoming more and more concerned with certi-

fication and that many would now have the profession responsible for certifying life itself.

Attention was called to the fact that some studies are currently under way on the subject—two of them being sponsored by the State Department of Health and Duke University.

A request was made that the original motion provide that the preamble in the policy statement include that portion of the report of the AMA Board of Trustees bearing on legislation. It was the consensus that this should be done. It was also suggested that the preamble make it clear that Society action has been taken at the request of many individuals and organizations—including the Commissioner of Health.

It was then moved by Dr. Murrell that the original motion be further amended by having the preamble contain a statement that the Society has addressed itself to the many aspects of therapeutic abortion in Virginia. The motion was approved.

After rejecting a motion to close debate, Council approved a request to amend the original motion by eliminating that part calling for the words "is likely to" to be substituted for the word "may" in the second exception to induced abortion.

*The original motion, as amended, was then adopted.*

In keeping with the resolution, the following represents the policy of The Medical Society of Virginia with respect to therapeutic abortions:

The Medical Society of Virginia recognizes that there are many physicians who, on moral or religious grounds, oppose therapeutic abortion under any circumstances. The right of these physicians to express and practice their belief must be respected. This policy statement in no way suggests that physicians, or patients, act contrary to their personal consciences.

The Medical Society of Virginia wishes to make it clear that its interest in this matter is strictly of a medical nature and should not be interpreted in either a legislative, moral or religious sense. Where legislation is concerned, the Society agrees with the American Medical Association that the problem is essentially one for resolution by each state through its own legislature. It is true that there are medical implications in such legislative decisions and physicians should freely provide information and guidance on these medical implications. However, enacting laws to integrate the medical aspects with the moral, ethical, religious, economic, social tradition, and other aspects of the problem is clearly the exclusive prerogative

and the responsibility of the legislature of each separate state.

This statement of policy is in actuality the outgrowth of numerous requests received by the Society to make its thoughts and recommendations known on the subject of therapeutic abortion. Consequently, the Society has addressed itself to the many aspects of the problem in Virginia. Perhaps it should be stated at this time that medicine has always been dedicated to the preservation of life rather than its destruction.

The Medical Society of Virginia is cognizant of the fact that there is no consensus among physicians regarding the medical indications for therapeutic abortion. However, the majority of physicians believe that, in the light of recent advances in scientific medical knowledge, there may be substantial medical evidence brought forth in the evaluation of an occasional obstetric patient which would warrant the institution of therapeutic abortion either to safeguard the health or life of the patient, or to prevent the birth of a severely crippled, deformed or abnormal infant.

Under these special circumstances, it is consistent with the policy of The Medical Society of Virginia for a licensed physician, in a hospital accredited by the Joint Commission on Accreditation of Hospitals, and in consultation with two other physicians chosen because of their recognized professional competence who have examined the patient and have concurred in writing, to be permitted to prescribe and administer treatment for his patient commensurate with sound medical judgment and currently established scientific knowledge. Prior to the institution of a therapeutic abortion, the patient and her family should be fully advised of the medical implications and the possible untoward emotional and physical sequelae of the procedure and recognizing that there are many physicians who on moral or religious grounds oppose therapeutic abortions under any circumstances.

In view of the above, The Medical Society of Virginia is opposed to induced abortion except when:

- (1) There is documented medical evidence that continuance of the pregnancy may threaten the health or life of the mother; or
- (2) There is documented medical evidence that the infant may be born with incapacitating physical deformity or mental deficiency; or
- (3) There is documented medical evidence that con-



tinuance of a pregnancy, resulting from legally established statutory or forcible rape or incest may constitute a threat to the mental or physical health of the patient;

- (4) Two other physicians chosen because of their recognized professional competence have examined the patient and have concurred in writing; and
- (5) The procedure is performed in a hospital accredited by the Joint Commission on Accreditation of Hospitals.

It is to be considered consistent with the principles of medical ethics for physicians to provide medical information to State Legislatures in their consideration of revision and/or the development of new legislation regarding therapeutic abortion.

Any legislation enacted in accordance with the above should clearly exempt from liability for malpractice the physician who, on moral or religious grounds, refuses to either perform or recommend therapeutic abortion.

### Title XIX

Dr. Hill provided Council some background information on Title XIX as it applies to Virginia—stressing the fact that the State Department of Health has been designated the administrative agency. Dr. Grossmann described the work of the Governor's Advisory Committee on Title XIX and the plan it had developed for consideration by the General Assembly in 1968. A meeting for Presidents of component societies was held at Society headquarters on September 8 and was said to have been one of the best meetings of its kind anywhere. Virginia must have a plan in operation by 1970 or face the loss of all Federal support where its welfare programs are concerned.

The Advisory Committee has been concerned with three main objectives—(1) to come up with a reasonable definition of "needy", (2) define the scope and types of services to be made available, and (3) to provide a workable system of quality control. All Virginians receiving welfare assistance will be eligible—as will those who qualify as medically indigent under the established criteria. It was learned that all needy citizens must be covered by 1975—which means that approximately 30% of the State's population will be eligible. This is based upon an income limit of \$3,500 for a family of four.

While the cost of the program for the first year will probably be between sixteen and eighteen million dollars, the estimated annual cost thereafter will

be \$91,600,000. The State's share will be approximately thirty-three million dollars.

Dr. Crispell registered a plea that our medical schools be protected under Title XIX. He pointed out that in one state only part of the physician's fee is paid when faculty members are involved. For example, if one-third of the faculty member's income should be paid by the State, Title XIX would only pay two-thirds of the fee concerned.

*A motion by Dr. Carmines that Council commend and support the Governor's Advisory Committee on its recommendations with reference to Title XIX was seconded and adopted.*

### AMA Annual Meeting

Dr. Barker reported that the Virginia resolution calling for protective anti-roll bars on tractors and farm machinery had been passed with no difficulty. He stated that the AMA disability insurance program had been considered at great length by the AMA House of Delegates and that it would be continued at the same premium rates with no reduction in benefits. Only the Fireman's Fund had indicated an interest in underwriting the program on this basis and, consequently, was taking over from Continental. Dr. Barker also mentioned House actions on Medicare and stated that Congress is expected to follow some of the suggestions. For example, the House of Representatives has voted to eliminate the need for certification on hospital admissions and also approved the use of itemized statements as a basis for payment under Title XVIII. This, of course, does not mean that receipted bills cannot still be used.

### Health Survey

Council learned that the Society's Committee on Medical Education would meet jointly on September 10 with representatives of the Medical College of Virginia and the University of Virginia School of Medicine. At that time a proposed survey of health services, activities and facilities in Virginia would be discussed.

Dr. Murrell then read a prepared statement on the proposed survey and stated that, in his opinion, medical care in Virginia is excellent. He believed, however, that a survey is quite in order and would have some positive results. For example, he believed the physicians of Virginia would wish to be informed by their own organization of the true status of medical care in Virginia and that they should know specifically about the quality and delivery of medical care in their own areas. The survey would put the



Society in a better position to evaluate Federal programs which undoubtedly will continue to be forthcoming from time to time. Dr. Murrell indicated that the Society would, as a result, be in a strong position to make recommendations for Government assistance when needed. Also, the Society would better be able to single out those areas of medical practice in need of continuing education. Such information could conceivably go far beyond the objectives proposed under the Heart, Cancer, Stroke Program. Dr. Murrell pointed out that information obtained would undoubtedly be of value to our medical schools in setting up their curricula. Then, too, citizens of Virginia would see that physicians are concerned about the level of medical practice in the State and are not overwhelmed by the fears and threats of impending socialism.

It was Dr. Murrell's opinion that should such a survey actually be undertaken, the delivery of medical care in Virginia unquestionably would improve. He indicated that conversations with members of Congress, representatives of the Governor's office, and responsible laymen had evoked a favorable response. He told of a trip to the Washington area for talks with representatives of the United States Public Health Service. Financing such a survey admittedly is a problem but chances of obtaining necessary funds do not appear unfavorable.

Brought out was the fact that the Committee on Medical Education believes—(a) The Medical Society of Virginia should be the best informed group in the State, (b) that it should take the lead in developing future health care programs in Virginia, and (c) any such survey would spotlight continuing education needs in the State.

Dr. McCausland stated that the matter was only being brought to the attention of Council for its information and possible support. The subject of a survey was still in Committee and no official recommendation could be made until after the meeting on September 10.

*Dr. McCarty then introduced a motion which would have Council accept the report of the Committee, endorse its efforts, and encourage it to pursue the matter to its completion. The motion was seconded and adopted.*

### Hospital Boards

Council was advised that it is becoming more and more obvious that there are certain advantages in having physicians serve as members of hospital boards of directors. Some opposition has developed from

some lay members of these boards. Several component societies have indicated that they will introduce resolutions in the House of Delegates calling for The Medical Society of Virginia to take appropriate action by urging appointment of physicians to the Boards of all hospitals. Brought out was the fact that the American Medical Association is on record as endorsing such efforts.

### "Prangley Plan"

The Medical Society of Virginia is, at the present time, on record as endorsing the so-called "Prangley Plan" for training certified bedside nurses. This endorsement was made by the House of Delegates last November. It was learned that, subsequent to that action, strong opposition to the Plan had developed in the Virginia Hospital Association and also the Virginia Nurses' Association.

Dr. McCarty pointed out that the Plan in question would only add another category to the several already in existence. He stated that many hospital administrators fear that it would result in another sizable increase in their operating budgets. It was agreed, however, that more bedside nursing is sorely needed and that the decline of diploma schools is cause for concern.

The trend today in nursing education seems to be in the direction of associate degree programs. These programs will undoubtedly increase as more and more community colleges become operational. The associate degree program has a great deal of appeal since it carries with it the attraction of the campus.

It was recalled that the resolution adopted by the House of Delegates had called for the Society to assist in obtaining enactment of such legislation as might be necessary to place the "Prangley Plan" in effect.

*Dr. Grossmann expressed the feeling that the matter should be referred back to the House of Delegates with the recommendation of no further action and a motion to this effect was seconded and adopted. Dr. Walton requested that he be recorded as opposed.*

### Seat Belt Signs

The following resolution, brought to the attention of Council by the Fairfax County Medical Society, and introduced by Dr. Parker, was adopted:

WHEREAS accidental death was the fourth most frequent cause of death in the United States in 1965, killing 105,000 people, and

WHEREAS automobile accidents resulted in 49,000

of these deaths, an increase of 3% over 1964, and WHEREAS 1,800,000 injuries resulted from automobile accidents with 150,000 victims suffering some permanent disability, and

WHEREAS the Cornell and other studies have shown beyond question that use of auto seat belts would have prevented between 25% and 30% of these deaths, and a similar proportion of disability, and

WHEREAS the members of The Medical Society of Virginia do deal daily with the perpetuation of life as their stock in trade, and

WHEREAS The Medical Society of Virginia feels the responsibility of undertaking any and all action designed to reduce the loss of life and health caused by highway accidents, now, therefore, be it

RESOLVED that The Medical Society of Virginia duly urge upon Department of Highways of Virginia the erection of signs urging FASTEN SEAT BELTS at the points of entrance and exit of all interstate roads and at points entering and leaving all cities in Virginia, and, be it further

RESOLVED that copies of this resolution be sent to all members of the Virginia General Assembly.

### Financial Outlook

The financial outlook of the Society was discussed in some detail. Dr. Grossmann stated that, for the past several years, we have been continually pressed for funds, and noted that it is becoming more and more difficult to live within the budget. He went on to say that only one state has lower dues than The Medical Society of Virginia—that difference being \$5.00. It was his feeling that if the Society is to properly meet its responsibilities and realize its objectives, an increase in dues must be seriously considered.

The Executive Secretary indicated that, in his opinion, the Society is financially sound and is in no immediate danger. He pointed out that every effort is made to maintain sufficient reserve capital to equal required operating expenses for one year.

The thought was expressed that the Society should not be forced to curtail some of its activities or restrict the work of its Committees for budgetary reasons. It was the consensus that Virginia physicians would accept a modest dues increase without opposition.

*It was then moved by Dr. Walton that Council recommend an annual dues increase in the amount*

*of \$10.00—bringing the total for active members to \$50.00. The motion was seconded and adopted.*

### Retirement Program

Dr. Stone reported that the Insurance Committee had recommended approval of a Plan designed to enable Society members in private practice to take maximum advantage of the Keogh Act. The Plan proposed by Retirement, Inc., features group rates, simplified enrollment procedures, flexibility and an opportunity to obtain a possible hedge against inflation both before and after retirement. Dr. Stone went on to report that many members had evidenced interest in a Keogh-type program since the law was amended to make possible extended benefits effective January 1, 1968.

The following resolution, as introduced by Dr. Stone, was seconded and adopted:

WHEREAS, The Medical Society of Virginia deems it advisable as a result of the enactment of the Self-Employed Individual's Tax Retirement Act of 1962, to establish a program of retirement benefits in which the members of this Society may participate, and its Insurance Committee has made recommendations as to the type of retirement program best suited to our members' interests, which recommendations have been submitted to and reviewed by the Executive Council; now, therefore, be it

RESOLVED, that the Retirement Plan proposal of Retirement, Inc., is hereby adopted as the retirement program of The Medical Society of Virginia; and be it further

RESOLVED, that the aforesaid Insurance Committee is hereby authorized to take such actions as are necessary and proper to the formal establishment of said retirement program, including, but not limited to, the preparation of an Agreement and Declaration of Trust for said retirement program; and be it further

RESOLVED, that the following individuals are hereby designated as Trustees for the Keogh Act retirement plan to be made available by the Society to its self-employed members: (to be appointed). Be it also

RESOLVED, that Retirement, Inc., is hereby designated to perform the administrative, accounting and promotional services necessary under said retirement program and that the Trustees, when constituted, are instructed to make such arrangements as are required to fulfill this resolution.

## AMA Dues Collection

Council was advised that The Medical Society of Virginia is one of a very few state societies which collects AMA dues. It seems that most states delegate such dues collecting responsibilities to component societies—a system which has never proved entirely satisfactory in Virginia. For its efforts, the Society receives from AMA 1% of the monies collected. A recent study—based on time and materials—reveals that the Society is barely breaking even. As a result, Council was asked for its recommendation as to whether the Society should seek an increase in the percentage allowance for dues collected.

There was general agreement that the 1% figure is much too low and *a motion was offered by Dr. McCausland directing that an effort be made to obtain from AMA an increase sufficient to justify the time and effort expended in the collection of dues for that organization. The motion was seconded and adopted.*

## Insurance

During a recent review of the "package" policy on the headquarters building it was noted that present coverage is \$72,000. Since construction costs have increased an average of 7%, it was considered wise to increase the coverage to \$77,000. This would represent an increase of \$24.00 in the three-year premium.

Council also heard a suggestion that the Society seriously consider Workmen's Compensation Insurance for its own protection. This would be entirely voluntary since coverage is not required when less than seven employees are involved. Such coverage would pay, on behalf of the insured, all sums arising from bodily injury, sickness, disease and death to any employee in the course of his employment. The estimated premium would be \$61.00 per year.

*A motion by Dr. Stokes that both suggestions be approved by Council was seconded and adopted.*

## Executive Committee

Dr. Carmines reported that the Executive Committee of Council had met a number of times during the year—both in Williamsburg and Richmond—and had sought to advise the President on matters requir-

ing prompt action. He stressed the fact that the Executive Committee, under the By-Laws, can only act in an advisory capacity.

## The Washington Scene

Dr. Parker reported that a lull presently existed on the legislative front because of the Labor Day recess. He mentioned the fact that H.R. 12080 was now in the Senate and that an effort was being made by some Senators to authorize chiropractic care under Medicare. Virginia's Senators have been kept informed concerning the wishes of the Society.

Dr. Moss called attention to the fact that H.R. 12080 represents something of a victory for medicine in that it contains amendments to Medicare and Medicaid strongly advocated by the profession. He went on to say that much of the credit properly belongs to AMPAC and State political action committees. Many Congressmen supported by medical political action committees have made the difference.

## Report to House

Dr. Salley expressed the opinion that Council should, by all means, make a formal report to the House of Delegates on matters of policy acted on during the year. He stressed the fact that the House of Delegates is the governing body of the Society, and that Council—as the executive committee of the House—functions officially only when the House is not in session.

*It was moved by Dr. Carmines that a concise report of Council's action be prepared by the Executive Secretary for presentation during the first meeting of the House. The motion was seconded and adopted.*

## Rules of Procedures

Dr. Salley indicated that the President's address would be placed very early on the agenda for the First Session of the House. He went on to say that experience has shown that elections of officers should be held early during the Second Session of the House.

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD, *Secretary*

APPROVED:

K. K. WALLACE, M.D., *President*



## Public Relations . . . .

### 1967 AMA Communications Institute

Mr. Bob Howard and I had the privilege of attending this Institute at The Drake Hotel in Chicago, August 24-25. It was really gratifying to see the large attendance. At the first meeting, about 15 years ago, the attendance was 60. This year, the attendance was about 500. This, in itself, shows that more and more State Medical Societies realize the importance of sending their Executive Secretaries, Public Relations Chairman, and Presidents-Elect to this meeting.

Mr. Jim Reed and his staff can justly be proud of the 1967 Communications Institute. I have attended all of these with the exception of one. Each one has grown in size and value to those attending but the '67 Institute was the BEST EVER.

I am certain that Mr. Marvin L. Rowlands, Jr., Editor of the AMA News, gave a complete and comprehensive coverage of the meeting in *The News*, from an editor's standpoint, but no two people attend a meeting with the same prospective or receptivity so I will give you my reaction to this Institute with the hope that my account will arouse enough interest and curiosity that more chapters of The Medical Society of Virginia will send representatives to the '68 Institute.

Guy D. Beaumont, Director of Communications of the Medical Society of the State of New York, spoke on Hot Line & Bulletin Boards. He put more emphasis on the manner rather than the method of conveying important information. He recommended first class mail and the use of special envelopes. In regard to Bulletin Boards, he recommended that these boards be maintained by the local Medical Societies and that the boards be kept up to date by the hospital administrators.

Dan S. Wert, Executive Assistant of the Pennsylvania Medical Society, discussed "IN-

STANT NEWS". He recommended using the local radio station and the voice of one of the local doctors to convey the notices.

Mr. Donald Westbrook of the Winnebago County (Illinois) Medical Society gave a presentation on the use of slides. He stressed low cost, audience adaptability, versatility, and mobility. He suggested 25-40 seconds broadcast with no more than 40 slides. He re-emphasized the use of billboards with a change of message every 2-3 months, using large illustrations and short messages.

Mr. James Slawny gave a triple screen presentation of a Medical Society Survey.

This was followed by a compilation of the results of Medical Society PR Polls presented by Mr. E. A. Uzemack, Director of Officers Services, AMA. Mr. Frank Chappell, Director Science News, AMA, and Mr. Jim Hickox, Director of Program Services, AMA. These men stressed that an effective PR Program should emphasize the benefit to the Public, absolute cooperation between the Press, Radio, and T.V. with the Medical Profession. They recommended that one meeting a year of the local medical societies be a dinner meeting of the medical society to which representatives of the Press, Radio, and T.V. be invited, such meetings to be preceded by a social hour. At these meetings, mutual problems of all groups could be discussed with the hope of solutions to these problems.

They also stressed the importance of publicizing the part that the medical profession is playing in the Medical Aspects of Sports—This was most gratifying as our Medical Society of Virginia has been most active, for the past four years, in cooperating with the Virginia High School League in sponsoring Seminars each August for physicians, coaches, principals of High Schools throughout the State striving to enforce more regulations regarding adequate examination of squad members as well as having complete

medical supervision at all practices as well as at inter-scholastic meets.

This portion of the program also dealt with such important phases as physician-patient relationship, cost of medical care, and where the actual increase cost has arisen, lack of sufficient numbers of physicians, and lack of community portrayal of the true image in each community.

Dr. Joseph D. Cooper, author, lecturer and teacher, gave an interesting and informative discussion regarding his book titled, "Getting More Done In Less Time."

The last portion of the morning's program was devoted to instructions regarding the afternoon workshops on Communications.

Dr. F. J. L. Blasingame, Executive Vice President, AMA, talked on THE FEDERATION. He was followed by Dr. John H. Budd, Cleveland, Ohio, regarding State Medical Societies and Dr. John C. Meadows, San Antonio, Texas.

At the luncheon, we had the privilege of hearing Mr. Samuel Lubell, Public Opinion Specialist of New York City.

Thursday afternoon, we divided into workshops based upon Medical Societies of varying memberships. This was most productive.

Then, on Friday, we had the compiled results of the discussions of the groups. I was privileged to attend the workshop that was chairmanned by Dr. Rex Kenyon of Oklahoma City. There were lots of good points and recommendations brought up at this meeting and they were all, in addition to the recommendations from the other workshops, presented at the Friday morning meeting.

The consensus of opinion, from all of these meetings, was that it would be beneficial to have a field representative at the meetings of all State Medical Societies.

We had a compilation of the reports from all of the Workshops. It was interesting that all of the Workshops had the same

problems with the same questions regarding possible solutions.

On the last day of the Institute, we had the privilege of hearing from the President of the AMA, Dr. Milford Rouse, regarding the Physician's role in Public Relations. He stressed the importance of CIVIC PARTICIPATION. This is no new concept but one that needs to be emphasized as it is ever more important that if we, the physicians, wish to improve our image in the eyes of the public who are our patients, we must convince them that we are concerned with our community and city as a whole and are just "ONE OF THE BOYS" and not a member of the community that is concerned with just making a lush livelihood off of the community at the expense of those unfortunate members of that community who are sick and in need of medical assistance.

As most of our members already know, The Medical Society of Virginia is extremely interested in the Virginia Association of Medical Assistants and it was indeed gratifying to hear such men as Dr. Milford Rouse, President of AMA, Dr. Rex Kenyon, who appeared on the program of the American Association of Medical Assistants in St. Louis, and many others, stress the importance of the AAMA and their members to us doctors in the over all care of our patients and the efficient and satisfactory operation of our offices from a public relation standpoint.

Doctors, don't you think this justifies our esteem for members of the local, state, and national organization of Medical Assistants? I hope it will encourage more and more of us to urge the office personnel to join their local, state and national organization of Medical Assistants. Just remember this, if we, their employers, pay their dues to the local, state and national organizations, it is a TAX DEDUCTIBLE office expense. Doctors, all of us deal in stocks of one kind or another, some of them pay off, others are a total loss, but any money that we invest in our office personnel is GOLD BRICK invest-



ments—one in which we cannot lose but are sure of multiple gains.

Dr. Rouse's address was followed by a review of Government Health Programs. Mr. Bernard P. Harrison moderated this discussion. Dr. Daniel B. Benedict presented THE DENVER STORY and Dr. William H. Moore presented THE ATLANTA STORY.

The Institute concluded with a luncheon at which we had the privilege of hearing Mr. Charles Shuman, President of the American Farm Bureau.

I hope that this report has been so confusing that each Medical Society in the State of Virginia will send at least one or more representatives to the '68 Institute of Communications so that they can bring back an accurate report of just what goes on at these meetings and I will be relieved of the ordeal of submitting a detailed report in the hope that more and more Medical Societies in our state will send their representatives to bring back first hand information that will better enable them to carry on a successful PR Program in their respective locality.

JOHN WYATT DAVIS, JR., *Chairman*  
*Public Relations Committee*

### **Seminar of Investment and Estate Planning.**

The Public Relations Committee of The Medical Society of Virginia, together with the Richmond Professional Institute and the Southwestern Virginia Medical Society, sponsored a Seminar on Investment and Estate Planning for Physicians at the Hotel Roanoke, September 8.

This Seminar was the morning session of the second day of the fall meeting of the Southwestern Virginia Medical Society.

The attendance was excellent, both in the number who attended as well as the areas represented by the doctors in attendance.

Colonel Mansfield from the Richmond Professional Institute was the Moderator and

Mr. E. Cofer Loomer made a few opening remarks.

The Panels were Mr. F. Carlisle Tiller, Executive Vice President of the Wheat & Company, Inc., who spoke on THE ROLE OF COMMON STOCK IN THE FINANCIAL PLANNING OF THE PROFESSIONAL MAN; Mr. Clifton M. Miller, Jr., Vice President of the Virginia Trust Company who spoke on INVESTMENT THROUGH BOND MEDIA; Mr. William V. Britton, Jr., Account Executive of the F. W. Craig & Co., Inc., spoke on INVESTMENT THROUGH MUTUAL AND INVESTMENT COMPANIES. The Panel concluded with an address by Mr. James McGrann, Vice President & Senior Trust Office of The Bank of Virginia, on COORDINATION OF INVESTMENT AND ESTATE PLANNING FOR THE PROFESSIONAL MAN.

At the conclusion of each presentation, these gentlemen answered questions from the floor and I was delighted with the interesting response from those in attendance.

Due to the reception of this Pilot Program, I hope that The Medical Society of Virginia can co-sponsor similar programs with other medical societies in the Richmond and Norfolk areas at some future date.

Mr. Loomer and Colonel Mansfield both expressed their satisfaction with the program and assured me of their willingness, through the Richmond Professional Institute, to cooperate with The Medical Society of Virginia in every way possible regarding future Seminars, stressing the point that these Seminars would not necessarily have to be confined to Investment and Estate Planning but could cover other subjects of equal importance and interest such as Office Management and Medicine and Religion.

I hope that when these Seminars are arranged, the medical profession in Virginia will avail themselves of them as it is a source of knowledge and assistance which, in my opinion, is not available elsewhere.

JOHN WYATT DAVIS, JR., M.D., *Chairman*



## Woman's Auxiliary . . .



MRS. DANIEL ANDERSON

### **A Tall Look at a Tall President**

Mrs. Daniel Anderson of Norfolk has served The Woman's Auxiliary to The Medical Society of Virginia this past year as its President-Elect and has visited eighteen of our twenty-four component auxiliaries, attended the State Conventions in North Carolina and West Virginia and three National Auxiliary Meetings. Speaking of her travels, Anna has said (as in Tennyson's *Ulysses*), "I am a part of all that I have met." "One is never lost in the *Medical Family* that serves this nation."

Claiming a Tri-State background, Anna Elizabeth McDowell was born in Hinton, West Virginia, the only child of Maytie Zimbro and William Emmett McDowell. She proudly refers to herself as a native "snake hunter" but her pronunciation and dialect quickly reveal that her growing

years were spent in Richmond, Virginia. She was graduated from the public schools of Richmond, attended Richmond Professional Institute for two years and was graduated from the Medical College of Virginia School of Nursing in 1947, receiving her Bachelor of Science in Nursing and membership in Sigma Zeta, National Honorary Science Fraternity.

She and Dan Anderson met the next year at his graduation from M.C.V. when Anna was teaching in the school of nursing. They were married in 1949 and lived at Oteen, North Carolina, just outside of Asheville, where Dr. Anderson was taking his chest residency. Thus, her Tri-State background.

Anna worked in Nursing Education at Oteen and at McGuire V. A. Hospital in Richmond. After their son, William McDowell, was born Anna returned to M.C.V. to teach Pediatric Nursing. In 1953, Dr. Anderson began serving two years in the army at Brooke Army Hospital, was in San Antonio, Texas, where their second child, Anna Elizabeth, was born. In 1956, they settled in Norfolk in the practice of Internal Medicine and the next year Pamela Susan was born.

Of her early years in Norfolk, Anna notes that the Auxiliary helped her feel "at home" in their chosen location and she has always worked for The Woman's Auxiliary to the Norfolk County Medical Society, serving as its President in 1964-65.

"I'm not a clubwoman" is her claim "and I've only worked in or belonged to organizations that seem to closely affect my family as: P.T.A., Scouts, Hospital Auxiliaries, Norfolk Museum, Norfolk Society of Arts, Norfolk Historic Society, Auxiliary to the Norfolk Symphony, our neighborhood Garden Club and in Royster Memorial Presbyterian Church where I taught fifth graders in Sunday School." This latter, she was



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In the hypotonic duodenograph<sup>1,2</sup> reproduced above, the gastrointestinal tract was relaxed with Pro-Banthine. The duodenum was intubated. Pro-Banthine in a dose of 60 mg. intramuscularly was used to assure prompt aperistalsis and double-contrast visualization was achieved with ordinary barium and air.

The same pharmacologic efficiency has proved of pronounced value in such conditions as: *peptic ulcer, pylorospasm, biliary dyskinesia, functional hypermotility and irritable colon.*

**Contraindications:** Glaucoma or severe cardiac disease.

**Precautions:** Since varying degrees of urinary hesi-

tancy may occur in elderly males with prostatic hypertrophy, this should be watched for in such patients until they have gained some experience with the drug. Although never reported, theoretically a curare-like action may occur with possible loss of voluntary muscle control. Such patients should receive prompt and continuing artificial respiration until the drug effect has been exhausted.

**Side Effects:** The more common side effects, in order of incidence, are xerostomia, mydriasis, hesitancy of urination and gastric fullness.

**Dosage:** The maximal tolerated dosage is usually the most effective. For most *adult* patients this will be four to six 15-mg. tablets daily in divided doses. In severe conditions as many as two tablets four to six times daily may be required. Pro-Banthine (brand of propantheline bromide) is supplied as tablets of 15 mg., as prolonged-acting tablets of 30 mg. and, for parenteral use, as serum-type vials of 30 mg. The parenteral dose should be adjusted to the patient's requirement and may be up to 30 mg. or more every six hours, intramuscularly or intravenously.

(1) Bilbao, M. K.; Frische, L. H.; Rösch, J., and Dotter, C. T.: Hypotonic Duodenography, Scientific Exhibit, Radiological Society of North America, Chicago, Nov. 27-Dec. 2, 1966.

(2) Bilbao, M. K.; Frische, L. H.; Dotter, C. T., and Rösch, J.: Hypotonic Duodenography, Radiology, in press.


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# helps keep calories at arm's length

Preludin is indicated only as an anorectic agent in the treatment of obesity. It may be used in simple obesity and in obesity complicated by diabetes, moderate hypertension, or pregnancy. For use in pregnancy, see Warning.

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*Contraindications:* Severe coronary artery disease, hyperthyroidism, severe hypertension, nervous instability, and agitated prepsychotic states. Do not use with other CNS stimulants, including MAO inhibitors.



*Warning:* Do not use during first trimester of pregnancy unless potential benefits outweigh possible risks. There have been clinical reports of congenital malformation, but causal relationship has not been proved. Animal teratogenic studies have been inconclusive.

*Precautions:* Use with caution in moderate hypertension and cardiac decompensation. Cases involving abuse of or dependence on phenmetrazine hydrochloride have been reported. In general, these cases were characterized by excessive consumption of the drug for its central stimulant effect, and have resulted in a psychotic illness manifested by restlessness, mood or behavior changes, hallucinations, or delusions. Do not exceed recommended dosage.

*Side Effects:* Dryness or unpleasant taste in the mouth, urticaria, overstimulation, insomnia, urinary frequency or nocturia, dizziness, nausea, or headache. (B)R46-560-A

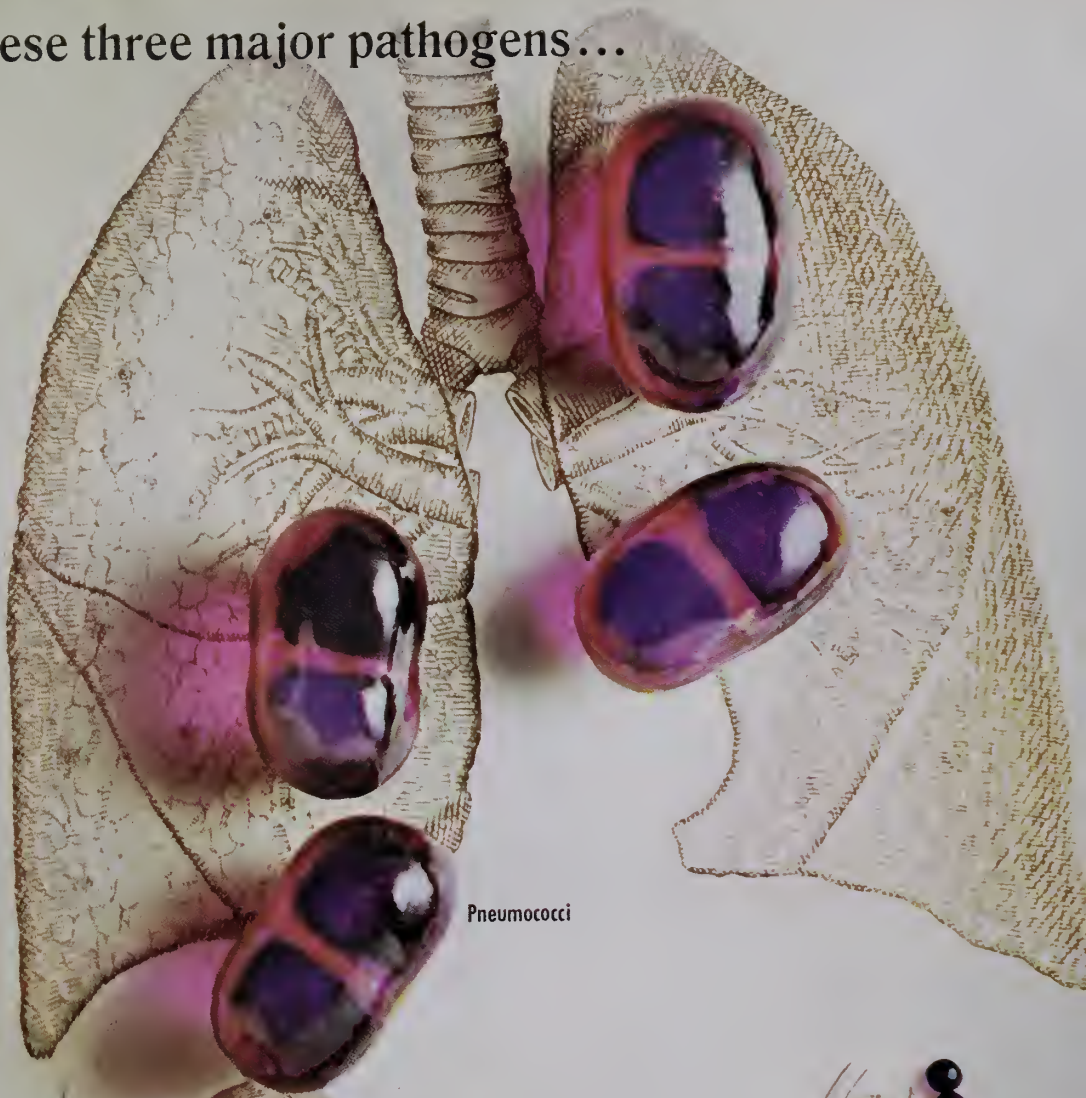


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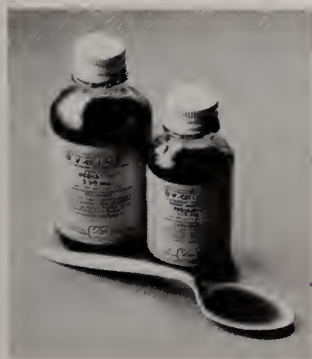
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V-Cillin K has been shown to be effective in the treatment of streptococcus and pneumococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy in patients with a history of rheumatic fever or congenital heart disease.

## with high blood levels, even when taken with food

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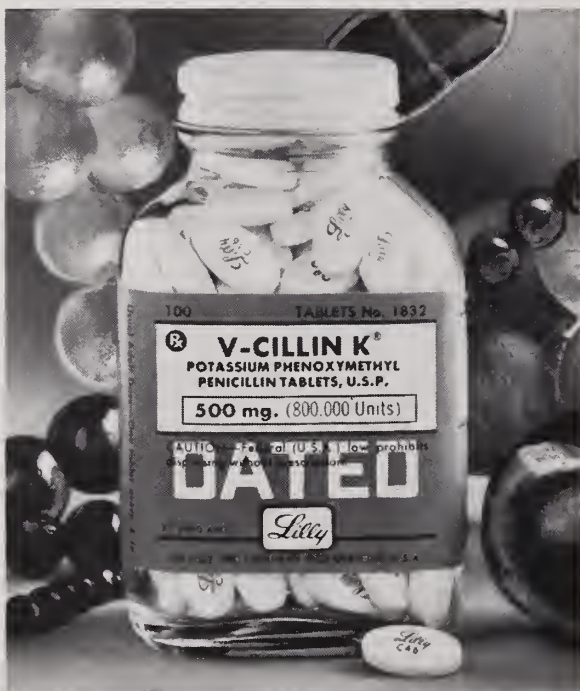
## V-Cillin K<sup>®</sup> 701449 Potassium Phenoxyethyl Penicillin

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**Indications:** Streptococcus, pneumococcus, and gonococcus infections; infections caused by sensitive strains of staphylococci; prophylaxis of streptococcus infections in patients with a history of rheumatic fever; and prevention of bacterial endocarditis after tonsillectomy and tooth extraction in patients with a history of rheumatic fever or congenital heart disease.

**Contraindication:** Penicillin hypersensitivity.

**Warnings:** In rare instances, penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type of reaction appears more frequently in patients with a history of sensitivity reactions to penicillin or with bronchial asthma or other allergies. Resuscitative drugs should be readily available. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for immediate allergic manifestations and antihistamines and corticosteroids for delayed effects.

**Precautions:** Use cautiously, if at all, in a patient with a strongly positive history of allergy.

In prolonged therapy with penicillin, and particularly with high parenteral dosage schedules, frequent evaluation of the renal and hematopoietic systems is recommended.

In suspected staphylococcus infections, proper laboratory studies (including sensitivity tests) should be performed.

The use of penicillin may be associated with the overgrowth of penicillin-insensitive organisms. In such cases, discontinue administration and take appropriate measures.

**Adverse Reactions:** Although serious allergic reactions are much less common with oral penicillin than with intramuscular forms, manifestations of penicillin allergy may occur.

Penicillin is a substance of low toxicity, but it possesses a significant index of sensitization. The following hypersensitivity reactions have been reported: skin rashes ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; and reactions resembling serum sickness, including chills, fever, edema, arthralgia, and prostration. Severe and often fatal anaphylaxis has occurred (see Warnings). Hemolytic anemia, leukopenia, thrombocytopenia, and nephropathy are rarely observed side-effects and are usually associated with high parenteral dosage.

**Administration and Dosage:** Usual dosage range, 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants, 50 mg. per Kg. per day divided into three doses.

See package literature for detailed dosage instructions for prophylaxis of streptococcus infections, surgery, gonorrhea, and severe infections.

**How Supplied:** Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units), 250 mg. (400,000 units), and 500 mg. (800,000 units).

V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,000 units) and 250 mg. (400,000 units) per 5 cc. of solution (approximately one teaspoonful). [042567]

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forced to resign when she became our State Auxiliary's President-Elect.

Of living in Norfolk, the Andersons all enjoy the beach and water sports, especially fishing. They have even learned to "weather" the hurricanes that threaten the area each Fall! Never an athlete, Anna's favorite pastime is going to antique auctions, visiting historic homes and her avocation would be creative writing. "I've scribbled notes for years for that novel I hope to write *someday!*" "History was always my best subject and I'm glad to live in such an historic area in such an historic era. It's indeed a thrill and a challenge."

### **A Child Is Born**

On October 8, 1966, as I approached the mezzanine of the Drake Hotel to attend the Hospitality Hour of my first National Conference, I was all excited and about to receive the nicest compliment of the last ten years. Our lovely President, A. M. A. Woman's Auxiliary, Mrs. Asher Yaguda, spoke to me cordially and asked, "Are you WASAMA or WAAMA?" And I thought, "What Am I?"! What's the language?

That was the first time, to my knowledge, that I had heard WASAMA and after telling my story to several people, I found that WASAMA meant Woman's Auxiliary to The Student AMA and I realized I had been highly flattered!

While still in Chicago, I chatted with the National President of WASAMA and promised to return to Virginia and campaign for WASAMA. As President-elect of The Woman's Auxiliary to The Medical Society of Virginia, membership was my job. As I visited around the State, even where there were no teaching hospitals, I told of WASAMA so that at least everyone would be able to speak the language!

As an alumna of Medical College of Virginia, married to an alumnus, my first step was to write to our friend, Dr. Kinloch Nelson, Dean of Medicine at M. C. V. in Richmond. He gave us the "green light" and from that point reams of correspondence ensued with all National WASAMA officers.

Then I met Mrs. Pinson Neal, a dynamic young President-elect of the Richmond Auxiliary and asked her to start the "ball rolling" and to plan to be the first State WASAMA Chairman for my year as President, beginning in October, 1967. We spoke of a liaison to be appointed from the Richmond Auxiliary and came up with the perfect one, Mrs. Randolph Hoge, wife of Professor of Gynecology at M. C. V. and one who has always been able to identify well with students. Mrs. Hoge accepted and I relaxed.

On this October 10th, 1967, their organizational meeting well behind them, the first WASAMA meeting ever held in Virginia was held at the museum in Richmond with tea and a fashion show, M. C. V. underwriting the expenses. So, just one year later, after the original flattering question, "Are you WAAMA or WASAMA?", a child is born, not wrapped in swaddling clothes, but "going first class"! Wives of Interns and Residents of M. C. V. and other Richmond hospitals were invited to join as well as wives of medical students.

The moral of my little story: Don't ever think, as the little boy said to his beguiling sister, that "fluttery won't get you no where". It got us everywhere and we hope there will be a lot more "fluttery" around the Old Dominion soon." Are you WAAMA or WASAMA?"

ANNA McDOWELL ANDERSON

## Editorial . . . .

### New President



THOMAS WHITEHEAD MURRELL, JR., M.D.

THE MEDICAL SOCIETY OF VIRGINIA has, through its long and illustrious history, been blessed with strong, able presidents. Its new President, Dr. Thomas W. Murrell, Jr., is eminently qualified to provide the leadership which has become a hallmark of the office.

Dr. Murrell was born in Richmond on December 5, 1916—the son of Gertrude Clarke and Thomas W. Murrell. Dr. Murrell, Sr., was for many years Professor of Dermatology at the Medical College of Virginia.

A graduate of Woodberry Forest School, Dr. Murrell received his medical education at the University of Virginia, graduating in 1940. Post graduate training followed at the New York Post Graduate Hospital and New York Skin and Cancer Hospital.

Like many Virginia physicians, Dr. Murrell served in the Armed Forces during World War II. He spent three and one-half years in the U. S. Army Medical Corps—more than two years of that time in the European

Theatre. He attained the rank of Major and was decorated with the Bronze Star.

Our President is no neophyte where Medical Society activities are concerned. He is a Past President of the Richmond Academy of Medicine and served for eight years as a member of the Council of The Medical Society of Virginia. He is an Associate Councilor of the Southern Medical Association and holds membership in the American Dermatological Association and American Academy of Dermatology.

His interests and services to his community are not limited to medicine, however. He is a member of the Board of Visitors of Richmond Professional Institute, and has served on the governing boards of three church schools of the Episcopal Diocese of Virginia. He has been a member of the Vestry of St. Stephens Episcopal Church and his efforts on behalf of the United Givers Fund are well known.

Dr. Murrell has been engaged in the private practice of dermatology in Richmond since 1945. He is a Diplomate of the American Board of Dermatology and an Associate Clinical Professor of Dermatology at the Medical College of Virginia.

Married to the former Jane Goolrick of Fredericksburg, Dr. Murrell has two children—Thomas W. Murrell, III, and Page Nelson Murrell.

As one would expect of an active man, Dr. Murrell's hobbies are many. A Past-President of the Country Club of Virginia, he is particularly fond of boating, fishing and golf.

The pressures and problems of today impose great demands on our medical leaders and statesmen. They must be knowledgeable, dedicated, and above all else courageous. The Medical Society of Virginia is fortunate indeed to have such a leader in its new President.

W. L. B.

## Base Line Studies

**W**E HEAR MUCH about investment for the future, in one form or another from commercial sources, particularly the insurance companies, and there are related actions from the medical point of view. Base line studies on our patients whether they be clinical observations, laboratory or radiologic tests are certainly a form of investment for the patient's future well being. There are good examples in all medical fields and many of these studies are done universally as a requirement in man-



agement of some disease. The blood sugar level of known diabetics, the number of circulating white blood cells in patient's receiving intensive radiation or chemotherapy are good examples.

It is obvious that the practice is well established and of great value, but from the standpoint of radiological procedures with the exception of chest examinations, the procedure is used very little and is not well understood. As far as chest examinations are concerned, they should be obtained on all hospital patients regardless of the reason for admission if for no other reason than to protect the hospital staff from unexpected exposure to infectious disease, not to mention the information obtained from a screening procedure which includes several vital systems.

In the field of radiology, post-operative gastro-intestinal examinations can provide very useful information for the future should it be needed and no one can anticipate when it may be needed. All patients who have partial gastrectomies or colon resections for neoplasms should be examined. When called upon to examine this kind of patient, the radiologist is confronted with an uncommon situation where normal anatomical landmarks are altered by the surgical procedure, the healing process and possibly by an additional pathological process. If the changes of the surgical procedure and the healing process are documented at a time when nothing else is known to be present, the task of finding or excluding a new pathological process can be done with much greater accuracy. The need for accuracy is obvious when a search is made for a possible marginal ulcer or a recurrent carcinoma of the colon. Ideally the base line study is obtained in the uncomplicated case two to three weeks following surgery. In this situation, these procedures are a pure form of base line study not intended to yield information needed at the time of the examination. Other radiological examinations may be in the same category, but these procedures are the best examples. A small investment for the future can be very rewarding to the patient.

JOHN A. MARTIN, M.D.

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## The sensible schedule that covers the patient day and night

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The maintenance dosage of DECLOMYCIN can be kept at this convenient schedule because of its unusually high effective blood and tissue levels.

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In clinical practice, blood levels produced by a therapeutic dose of DECLOMYCIN are high, prolonged, and effective; because of high serum binding and slow renal clearance. And if there's a broader susceptibility pattern of organisms, we've yet to see it.

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**Lederle**

Prescribing information on next page.

# **b.i.d.** The sensible schedule that covers the patient day and night

**DECLOMYCIN** Demethylchlortetracycline should be equally or more effective therapeutically than other tetracyclines when the offending organisms are tetracycline-sensitive.

**Contraindication:** History of hypersensitivity to demethylchlortetracycline.

**Warning**—In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated, and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photo-allergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort. Necessary subsequent courses of treatment with tetracyclines should be carefully observed.

**Precautions**—Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

**Side Effects**—Gastrointestinal system— anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes. A rare case of exfoliative dermatitis has been reported. Photosensitivity; onycholysis and discoloration of the nails (rare). Kidney—rise in BUN, apparently dose related. Transient increase in urinary output, sometimes accompanied by thirst (rare). Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. Teeth— dental staining (yellow-brown) in children of mothers given this drug during the latter half of pregnancy, and in children given the drug during the neonatal period, infancy and early childhood. Enamel hypoplasia has been seen in a few children. If adverse reaction or idiosyncrasy occurs discontinue medication and institute appropriate therapy.

**Average Adult Daily Dosage:** 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products. Treatment of streptococcal infections should continue for 10 days, even though symptoms have subsided.

In the treatment of syphilis a dosage schedule of a total of 12 to 18 Gm. given in equally divided doses over a period of 10 to 15 days should be followed. Close follow-up observation of the patient is recommended, including appropriate laboratory tests, since demethylchlortetracycline has not had adequate evaluation in all stages of syphilis. Spinal fluid examination should be included as part of this follow-up.

Acute gonococcal anterior urethritis in males has been treated effectively with a single dose of 600-900 mg. of DECLOMYCIN Demethylchlortetracycline. Individuals unable to tolerate large single doses due to gastrointestinal side effects may be treated with 150 mg. every 6 hours for a minimum of 4 doses or 300 mg. every 12 hours for a minimum of 2 doses. Females should be treated with a dosage of 150 mg. every 6 hours or 300 mg. every 12 hours until a cure is effected.

Primary Atypical Pneumonia (Eaton Agent): The average adult daily dosage is 900 mg. in 3 divided doses for six days.

**LEDERLE LABORATORIES, A Division of  
American Cyanamid Company, Pearl River, N.Y.**





### Calendar of Events

McGUIRE LECTURE SERIES ON GASTROENTEROLOGY—Lecturer will be Dr. Franz J. Ingelfinger—Medical College of Virginia—Richmond—November 9-10, 1967.

NATIONAL CONFERENCE ON UTILIZATION REVIEW—Sponsored by American Medical Association—Shamrock-Hilton Hotel, Houston, Texas—November 25, 1967.

9TH NATIONAL CONFERENCE ON THE MEDICAL ASPECTS OF SPORTS—Hotel America—Houston, Texas—November 26, 1967.

CLINICAL CONVENTION OF AMERICAN MEDICAL ASSOCIATION—Houston, Texas—November 26-29, 1967.

NATIONAL CONFERENCE ON COMMUNITY AND EMERGENCY MEDICAL SERVICE—Sponsored by American Medical Association—San Francisco Hilton Hotel—San Francisco, California—January 18-20, 1968.

MEDICAL SEMINAR—A Continuing Education Presentation of the University of Virginia School of Medicine—Hot Springs—February 1-3, 1968.

STONEBURNER LECTURE SERIES ON NEPHROLOGY—Medical College of Virginia—Richmond—February 22-23, 1968.

AMPAC NATIONAL WORKSHOP—Sheraton-Park Hotel—Washington, D. C.—March 9-10, 1968.

SECTIONAL MEETING FOR PHYSICIANS AND NURSES—Sponsored by American College of Surgeons—Williamsburg—March 11-13, 1968.

CLINICAL CARDIOLOGY—19th Annual Post Graduate Day Program of Roanoke Memorial Hospital—Roanoke—March 21-22, 1968.

21ST NATIONAL CONFERENCE ON RURAL HEALTH—Olympic Hotel—Seattle, Washington—March 29-30, 1968.

CARDIOVASCULAR RESPONSES TO ANESTHESIA—Fifth Annual Spring Symposium of Virginia Society of Anesthesiologists—Sheraton Motor Inn—Richmond—April 19-21, 1968.

### New Members.

During the month of September, the following members were received into The Medical Society of Virginia:

William Henry Bandy, M.D.,  
Williamsburg

James Klinck Cunningham, M.D.,  
Warsaw

Oscar Bruton Darden, Jr., M.D., Bedford

Leon A. Dickerson, M.D., Winchester

Hunberto Escandon, M.D., Falls Church

Allan Augustus Hoffman, M.D., Danville

James Moir Hylton, M.D., Pulaski

Walter Edward Morgan, III, M.D.,  
Petersburg

Nestor Fuentes Natalio, M.D.,

Portsmouth

John Mathews Pitman, Jr., M.D.,

Williamsburg

Robert Cook Raynor, M.D., Afton

### **Southwestern Virginia Medical Society.**

At the annual meeting of this Society, held in Roanoke, September 7-8, Dr. Carl E. Stark, Wytheville, was elected president, Dr. O. O. Smith, Marion, vice-president, and Dr. Hal Smith, Christiansburg, secretary-treasurer.

### **Augusta County Medical Society.**

Dr. James A. Higgs, Staunton, is the new president of this Society. Other officers are: vice-presidents, Drs. Thomas G. Bell, Staunton, Paul A. Woods, Waynesboro, and Albert R. Gillespie, Staunton; treasurer, Dr. David Tyler, Waynesboro; and secretary, Dr. Phillip S. Grant, Staunton.

### **"Don't Send Your Wife to Me, Doctor."**

Dr. William H. Kaufman, Roanoke, is not the William Kaufman, M.D., author of this article in the September 4th issue of *Medical Economics*.

### **Celebrates 100th Birthday.**

Dr. Halstead Shipman Hedges, Charlottesville, celebrated his 100th birthday on September 30th. He was honored by the faculty of the School of Medicine of the University of Virginia, of which he is the oldest living graduate, his professional colleagues and friends at a reception.

A fund was established in his honor for an eye treatment room at Martha Jefferson Hospital.

### **AMA Clinical Meeting at Houston**

A scientific program especially designed for the physician in practice again will be featured at the AMA's Clinical Convention, to be held November 26-29.

The four-day meeting will include scientific sessions on 18 major topics, four postgraduate courses, breakfast roundtable conferences, closed-circuit television and medical motion picture programs, and more than 150 scientific exhibits.

Of special interest are the postgraduate courses, expanded to four topics: Fluid and

Electrolyte Balance, Oncology, Cardiovascular Disease, and Obstetrics and Gynecology. Each course will consist of three half-day sessions featuring outstanding teachers.

Scientific and industrial exhibits and all scientific meetings will be in Houston's new Astro Hall, a part of the Astrodome complex.

Topics at the general scientific sessions include: aerospace medicine, antibiotics, arthritis, cancer, cardiovascular medicine, cardiovascular surgery, dermatology, endocrinology, gastroenterology, general surgery, genitourinary treatment, geriatrics, obstetrics and gynecology, ophthalmology, otolaryngology, pediatrics, and psychiatry. There also will be a session on "new cares" featuring a discussion of legal and social problems now faced by the physician.

Breakfast Roundtable Conferences will discuss (1) Indications and Limitation of Uses of Antibiotics, (2) "The Moral and Ethical Aspects of Caring for the Dying Patient," (3) "Management of Cerebrovascular Insufficiency," and (4) Adolescence, Age of Rebellion; Some Related Psychiatric Aspects."

An outstanding program of closed-circuit color television and more than 25 medical motion pictures will be presented. Live, color television broadcasts of surgery and discussions from Houston's Hermann Hospital will be seen on a large screen in Astro Hall. Medical motion pictures will include three or four premier showings, plus several films that were well received at the AMA annual convention last June.

### **Dr. William J. Hagood, Jr.,**

Clover, was elected speaker of the Congress of Delegates at the annual meeting of the American Academy of General Practice in Dallas, Texas, September 16-21.

### **Dr. A. T. Mayo,**

Portsmouth, has been elected vice chairman of the Board of Chowan College in Murfreesboro, North Carolina.

**Dr. Sam D. Graham,**

Staunton, has received a citation for meritorious service from the President's Committee on Employment of the Handicapped. He was nominated for this award by the House of Delegates of The Medical Society of Virginia.

**Lynchburg Obstetrical and Gynecological Society.**

This Society was formed on February 28th, the purpose being to maintain the highest possible standards for Obstetrical and Gynecological practice in that area, by providing a forum for the exchange of ideas and methods of practice. Meetings are held on the 1st Monday of February, May, October and November. Dr. Robert H. Bowden, Jr., is secretary.

**Dr. Patricia A. Hunt**

Has been named director of the new Bureau of Child Health of the State Department of Health. She has been deputy director of the Alexandria Health Department and has recently completed a fellowship in pediatric neurology at Children's Hospital in Washington.

The new bureau resulted from the recent division of the former bureau of maternal and child health. Dr. James J. Dunne, former director of the combined bureau, is now director of the maternal health bureau.

**Dr. Calvin M. Kunin**

Has been appointed chairman of the department of preventive medicine at the University of Virginia. He succeeds Dr. William S. Jordan, Jr., who resigned to become dean of medicine at the University of Kentucky. Dr. Kunin has been a member of the

medical faculty since 1959, holding teaching appointments in the departments of internal medicine and preventive medicine.

**For Sale.**

X-Ray Unit, G.E. 300 MA, 125 KVP. Complete and in excellent condition. Call collect Mr. Grady or Mr. Finn, 275-9329, Hull Street Outlet, Inc., 3820 Jefferson Davis Highway, Richmond. (*Adv.*)

**Associates Wanted.**

Generalist, internist, or surgeon. Richmond, Virginia, suburb. Office general practice but limited to specialty in hospital; salary negotiable, partnership if compatible or expense sharing arrangement; also need semi-retired physician. Send complete biography to #80, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23219. (*Adv.*)

**Psychiatric Residencies for G.P.'s.**

NIMH residency training in approved three year program. Stipend \$11,500 to \$12,000. Applicants must have completed four years or more of practice in field of medicine other than psychiatry after an approved internship. Applicants should not be over 45. Address inquiries to Chairman, Department of Psychiatry, Medical College of Virginia, Richmond, Virginia 23219. Include curriculum vitae and recent photograph. (*Adv.*)

**General Practitioner Wanted**

To practice with two others in Roanoke. \$18,000 guaranteed the first year. Write #10, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)



## Obituaries . . . .

### **Dr. Martin Barbour Hiden,**

Warrenton, died September 21st at the age of eighty-one. He was a graduate of the School of Medicine, University of Virginia, in 1911. Dr. Hiden served in the Medical Corps of the U. S. Navy until 1921 when he resigned to enter private practice. He was surgeon at the Fauquier County Hospital in Warrenton and the Loudoun County Hospital in Leesburg until 1941 when he opened the Physicians Hospital in Warrenton. Dr. Hiden retired from practice in 1945. He was a member and former president of the Warrenton Rotary Club. Dr. Hiden had been an active member of The Medical Society of Virginia since 1925. He was for many years a member of the House of Delegates of the Society and served on numerous committees.

A daughter and five grandchildren survive him.

### **Dr. Samuel Palmer Hileman,**

Millboro, died September 5 after a long illness. He was seventy years of age and a graduate of the Medical College of Virginia in 1923. Dr. Hileman had practiced at Millboro since 1926. He had been a member of The Medical Society of Virginia for thirty-nine years.

His wife and two sons survive him.

### **Dr. John Taylor Ransone,**

Hampton, died September 7 at the age of seventy-four. He received his medical degree from Baylor University (Texas) in 1927. Dr. Ransone was in the service during World Wars I and II. He was research officer for the U. S. Public Health Service and diagnostician and psychiatrist at the VA Center in Hampton but in recent years has been in private practice. Dr. Ransone has been a member of The Medical Society of Virginia for twenty-three years.

His wife, two brothers and a sister survive him.

### **Dr. George William Hurt,**

Roanoke, was killed in an airplane crash on October 2. He was with his flight instructor and they were apparently simulating emergency landings and apparently failed to see power lines. Dr. Hurt was forty-five years of age and received his medical education at the Medical College of Virginia from which he graduated in 1946. He practiced obstetrics and gynecology with his father Dr. George S. Hurt and was chief of obstetrics and gynecology at the Community Hospital. Dr. Hurt was secretary-treasurer of the South Central Obstetrical and Gynecological Society. He had been a member of The Medical Society of Virginia since 1954.

Besides his parents, Dr. Hurt is survived by his wife, a son and a daughter, a sister and brother, Dr. Alvin J. Hurt, also of Roanoke.

### **Dr. Elizabeth Saunders Lee,**

Roanoke, died October 3 at the age of sixty-one. She received her medical degree from the University of Virginia in 1932. Dr. Lee taught at St. Catherine's School in Richmond before she entered medical school. She practiced in Blacksburg for several years and at the time of her death was college physician at Hollins College. Dr. Lee had been a member of The Medical Society of Virginia for eight years.

She is survived by her husband, Dr. Henry Lee, a daughter and three sons.

### **Dr. Horsley.**

On February 8, 1905, Guy Winston Horsley was born in Richmond, the son of Eliza Braxton Horsley and Dr. John Shelton Horsley, one of a long line of distinguished forebears. His father, the founder of St. Elizabeth's Hospital, was an outstanding surgeon in the South, and his elder brother, Dr. John Shelton Horsley, Jr., was the pioneer plastic surgeon in the State of Virginia.

Dr. Horsley's mother, Mrs. Eliza Braxton Horsley,

# Night Leg Cramps . . . Unwelcome Bedfellow In Diabetes,<sup>1</sup> Arthritis,<sup>2</sup> and Peripheral Vascular Disorders<sup>2</sup>

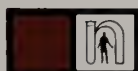


now . . . specific therapy for night leg cramps

*Walker*

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Consistently effective, QUINAMM provided complete relief in 94% of 200 patients studied, many of whom were severe cases refractory to other medication.<sup>3</sup> Your prescription for one tablet at bedtime often controls painful night cramps with the initial dose . . . helps restore restful sleep.

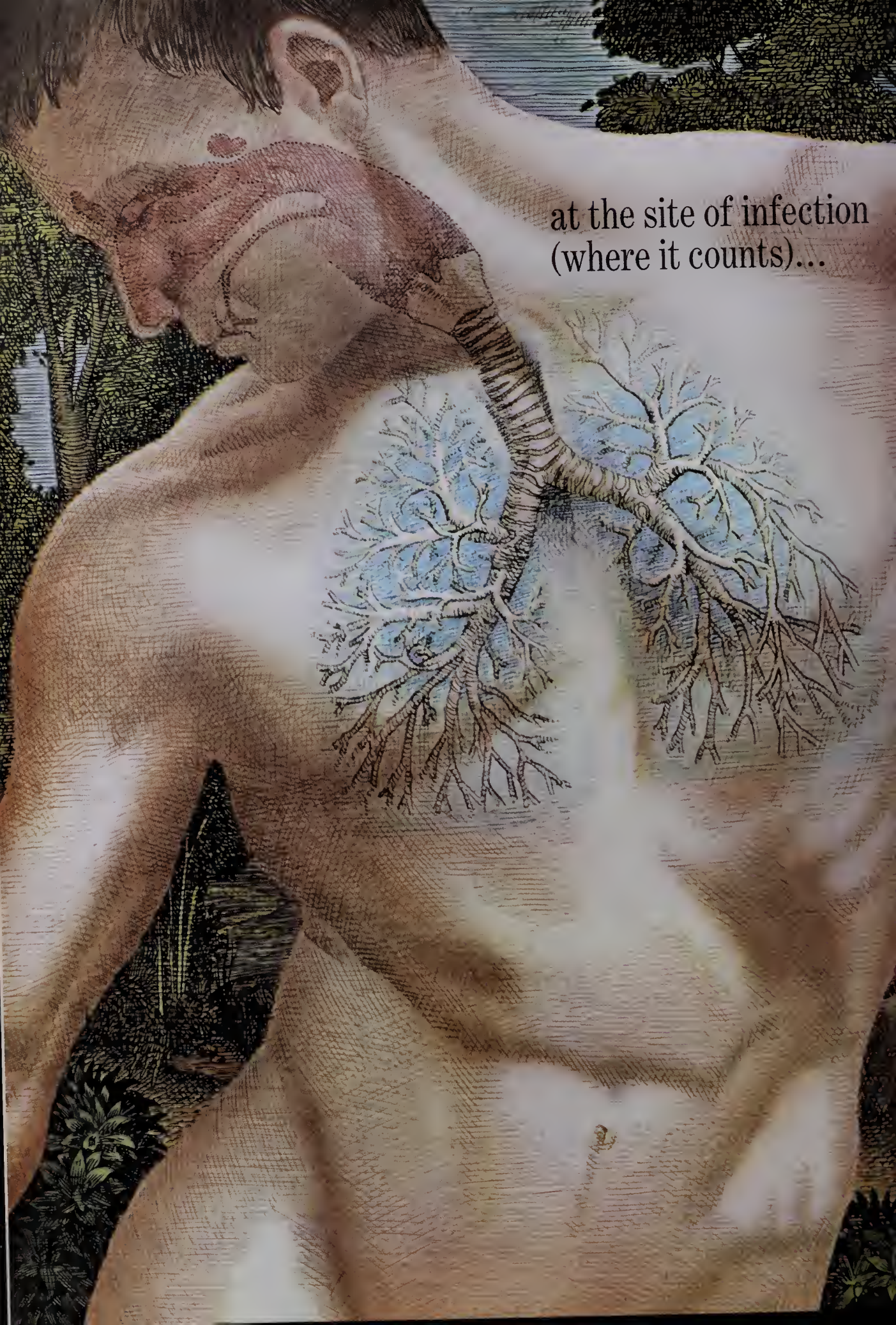


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**Prescribing Information:** **Composition:** Each white, beveled, compressed tablet contains: Quinine Sulfate 260 mg. and Aminophylline 195 mg. **Contraindication:** QUINAMM is contraindicated in pregnancy because of its quinine content. **Precautions:** Aminophylline may produce intestinal cramps in some instances, and quinine may produce symptoms of cinchonism, such as tinnitus, dizziness, and gastrointestinal disturbance. Discontinue use if ringing in the ears, deafness, skin rash, or visual disturbances occur. **Dosage:** One tablet upon retiring. Where necessary, dosage may be increased to one tablet following the evening meal and one tablet upon retiring. **Supplied:** Bottles of 100 and 500 tablets. **References:** 1. Shumon, C.: Am. J. Med. Sci., 225:54, 1953. 2. Perchuk, E., et al.: Angiology, 12:102, 1961. 3. Rowls, W., et al.: Med. Times, 87:818, 1959. 6/67 Q-706A



at the site of infection  
(where it counts)...





# Ilosone® provides more antibacterial activity than any other oral erythromycin

**Acid stable, better absorbed... Ilosone produces faster, higher, more prolonged blood levels, even in the presence of food<sup>1,3</sup>**

Because it is the most active form of oral erythromycin, Ilosone can help assure consistently greater antibacterial activity at the site of infection. Ilosone produces peak antibacterial blood levels two to four times those of other erythromycin preparations.<sup>1,2</sup> Not only are these levels attained earlier, but they are maintained for much longer periods. Even the presence of food does not seem to affect the activity of Ilosone.<sup>1,3</sup>

In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels

attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

**Now available:**

New! Ready-mixed Ilosone Liquid 125!  
(Contains erythromycin estolate equivalent to 125 mg. erythromycin base per 5-cc. teaspoonful.)

**Ilosone®**  
**Erythromycin Estolate**

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*(See next page for prescribing information.)*

# Ilosone®/the most active oral form of erythromycin

**Description:** Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

**Indications:** Ilosone is indicated in infections caused by micro-organisms sensitive to its action—especially staphylococci, hemolytic streptococci, and pneumococci.

It has been effective in streptococcus infections, particularly acute bacterial pharyngitis and tonsillitis; staphylococcus disease, including soft-tissue infections, furunculosis, abscesses, cellulitis, carbuncles, and wound infections; pneumococcus pneumonia and acute bronchitis with pneumococci on culture, bronchopneumonia, and otitis media.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents; surgical procedures should be performed when indicated, and large doses of the antimicrobial agents should be employed.

Penicillin is the drug of choice for syphilis and gonorrhea, but Ilosone in multiple 500-mg. doses has been useful in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone.

**Contraindications:** Known history of sensitivity to this drug; preexisting liver disease or dysfunction.

**Adverse Reactions:** Hepatic dysfunction with or without clinical jaundice has been reported infrequently. Changes in liver function tests indicative of intrahepatic cholestasis appear to be the result of individual idiosyncrasy. Findings subsided when treatment was discontinued. Occasionally, symptoms simulated extrahepatic obstructive jaundice or the colic of biliary tract disease.

When jaundice appeared to be related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalin flocculation and thymol turbidity tests, elevated serum glutamic oxala-

cetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Gastro-intestinal disturbances not associated with hepatic effects and occasional allergic manifestations (urticaria, skin eruptions, and, rarely, anaphylaxis) have been reported. The normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

**Administration and Dosage:** Ilosone is administered orally.

Infants and children under twenty-five pounds, 5 mg. per pound every six hours; twenty-five to fifty pounds, 125 mg. every six hours. Adults and children over fifty pounds, 250 mg. every six hours.

For severe infections, double the dosage. When larger doses are indicated, consider parenteral erythromycin therapy. In beta-hemolytic streptococcus infections, maintain treatment for ten days to prevent rheumatic fever or glomerulonephritis.

In syphilis, a total of 20 to 30 Gm. is administered in divided doses for ten to fifteen days. Close follow-up is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examination of spinal fluid is recommended during follow-up.

In gonorrhea, the dosage is 500 mg. four times a day for four days. Patients with a suspected lesion of syphilis should have a dark-field examination before receiving antibiotics and monthly serologic tests for three months. For detailed information, consult the package literature.

**How Supplied:** Pulvules® Ilosone, Capsules, N.F., 125 mg.\* and 250 mg.\*

Ilosone Liquid 125, Oral Suspension, U.S.P., 125 mg.\* per 5-cc. teaspoonful.

Ilosone, 125, for Oral Suspension, N.F., 125 mg.\* per 5-cc. teaspoonful.

Ilosone Drops, 5 mg.\* per drop.

Tablets Ilosone Chewable, N.F., 125 mg.\*

\*Base equivalent.

[080967]

*References:* 1. Griffith, R. S., and Black, H. R.: *Am. J. M. Sc.*, 247:69, 1964. 2. Griffith, R. S., and Black, H. R.: *Antibiotics & Chemother.*, 12:398, 1962. 3. Hirsch, H. A., Pryles, C. V., and Finland, M.: *Am. J. M. Sc.*, 239:198, 1960.

*Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.*



was a daughter of Dr. Tomlin Braxton, who graduated from the University of Pennsylvania in 1852 and practiced in King William County for nearly half a century. Her uncle, Dr. William A. Braxton, was killed while serving as surgeon to Mosby's Command in 1864, during the Civil War.

With this medical heritage, it is not surprising that Guy entered the Medical School at the University of Virginia in 1925, after receiving a Bachelor of Science degree from the same institution.

Sigma Xi elected him as a member for investigative work carried out while an undergraduate in medicine.

Following his graduation in 1929, he served as an intern and resident for three years in surgery at St. Elizabeth's Hospital. He was associated in the practice of surgery and gynecology with his father in Richmond from 1932 until he entered active Military Service, May 1942, with the rank of Major in the 45th General Hospital. He was the assistant Chief of Surgery, and rose to the rank of Colonel and was promoted to Chief of Surgery in the same unit during its tour of duty in North Africa and Italy. Colonel Horsley was awarded the Legion of Merit in 1945, and transferred from overseas duty to McGuire Veterans Hospital, in Richmond, Virginia, as Chief of the Surgical Service.

After World War II, in the fall of 1945, he returned to private practice with Dr. Shelton Horsley, Sr., only to take over as Surgeon in Chief at St. Elizabeth's Hospital a year later at the time of his father's death.

In addition to an active surgical practice, much of his time was devoted to the investigative and educational fields of medicine. Attention was directed in many of his publications to carcinoma of the colon and breast. He was considered a national authority on the diagnosis and treatment of carcinoma of the breast. He also edited the last edition of Horsley and Bigger, *Operative Surgery*.

He found time for many duties and interests in his chosen profession, and was rewarded with widespread professional recognition.

He served the Medical College of Virginia as an Associate Professor of Surgery, and was a diplomate of the American Board of Surgery. In 1952 he was elected President of the Richmond Academy of Medicine. He was a member of the State Board of Medical Examiners from 1947 to 1951 and served as President for the last two years of his term. He served as President of the Southern Surgical Association, The Medical Society of Virginia, the Virginia Medical Service Association and the Virginia Academy of Science, and as Vice-President of the Virginia Chapter of the American Cancer Society. He held memberships in the Richmond Surgical and Gynecological Society, Virginia Surgical Society, American

Surgical Association, Society of Medical Consultants to the Armed Forces, American Society for the Study of Neoplastic Diseases, American Society for the Advancement of Science, Excelsior Surgical Association, Southern Surgeons Club and the International Surgical Society.

Guy Horsley's professional achievements and honors were indeed many and well deserved. Special mention should also be made of Guy Horsley, the man, as well as the physician.

In 1936 he married Mary Clare Wright of Petersburg, and established a home where hospitality abounded. With their three children, they formed a warm, loving family circle.

Guy Horsley was a quiet gentle man, yet firm in his actions and convictions. He was a sincere friend, and a conscientious citizen.

His interests and energies were diversified. However, his greatest interest was centered in "Chericoke," his lovely family home in King William County. It was here Guy would relax, or work hard. Here he could fish or hunt, and here he was surrounded by his beloved family and able to entertain his many friends. The Horsleys made of "Chericoke" a joyful place, full of gaiety and happiness.

His life in Richmond was full. He belonged to the Commonwealth Club, the Country Club of Virginia, the Richmond German, and the Virginia Creepers. He also was a member of the Descendants of the Signers of the Declaration of Independence and the Military Order of World Wars.

The sense of loss we feel is great since Guy Horsley died July 17, 1967. The courage and patience with which he faced his last illness were symbolic of the strength of character he possessed.

Guy Horsley was a fine man, a true friend, a dedicated physician, and a "Virginia Gentleman" of the old school.

THEREFORE, BE IT RESOLVED that the Richmond Academy of Medicine, and the Medical Profession has lost an honored and beloved member, and that this Academy record its deep sorrow at his untimely passing. Also, that a copy of this resolution be kept on file in the Academy and a copy be sent to his family.

R. CAMPBELL MANSON, M.D.

ELAM C. TOONE, M.D.

REYNOLDSON D. BUTTERWORTH, M.D.

LEVI W. HULLEY, JR., M.D.

### **Dr. Bowden.**

Dr. Paul Webster Bowden, Richmond, died June 18th. He was fifty-four years of age and received his medical degree from the University of Cincinnati in 1937. Dr. Bowden was former Chief of the Bureau of Disease Control and Assistant Director of the Richmond City Health Department. He was with the health offices in Southampton and Charlotte



Counties before coming to Richmond. Dr. Bowden was also Assistant Health Officer in Oakland, California, and was located in Arlington for private practice and as Director of the School Health Program. He returned to Richmond in 1946 to become Chief of Communicable and Venereal Disease Control and later as Assistant Director of the Health Department. In 1958 he joined the medical staff of A. H. Robins Company, but returned to his former post with the City until he retired because of ill health in March. Dr. Bowden served as Associate Professor of Community Medicine at the Medical College of Virginia.

He had been a member of The Medical Society of Virginia for twenty-eight years, and was also a member of The American Medical Association, The American Public Health Association, The American Association of Public Health Physicians, The American Association for the Advancement of Science, The American Venereal Disease Association, and The Richmond Academy of Medicine. He was certified as a Diplomat of The American Board of Preventive Medicine and Public Health. He was also a member of St. Paul's Episcopal Church, The Torch Club, The Virginia Museum, and was Disaster Chairman for the Richmond Chapter of The American Red Cross.

His hobbies included boating, hunting, and photography. He was especially fond of gardening, and his lawn and yard were fine examples of this interest. His wife and a son survive him.

WHEREAS, Dr. Bowden's courtesy, tact, and consideration for others have contributed to the spirit of his office and earned him the affection and regard of his fellow workers and of patients alike, now, therefore, BE IT RESOLVED, that the membership of The Richmond Academy of Medicine extend to the family of Dr. Bowden our deepest sympathy, and BE IT FURTHER RESOLVED, that this resolution be sent to members of his family, and be made part of the minutes of this meeting.

EMMETT C. MATHEWS, M.D.

JOHN P. LYNCH, M.D.

S. A. GRAHAM, JR., M.D., *Chairman*

## Dr. Hughes.

The following memorial has become a part of the permanent minutes of the medical Staff of the Winchester Memorial Hospital.

On July 1, 1967, the City of Winchester, in general, and Winchester Memorial Hospital, in particular, lost one of their most dedicated servants—Dr. Richard Hughes.

Dr. Hughes's untimely death occurred fifteen years almost to the day from the time he moved to our City to begin practicing his specialty—Obstetrics and Gynecology. During that time, he won the respect and esteem of all who knew him. If he seemed abrupt and moody at times, it was because one of his patients

was not doing well. Dr. Hughes could never separate his practice from his thoughts; and the same standard of perfection he expected of others, he required of himself.

In addition to being an outstanding practitioner, Dr. Hughes was a true friend. His patients and associates could seek and obtain sound, unprejudiced advice on any problem. I have never known him to turn away any person who came to him for help. This was even more admirable because he would give the time and understanding especially to those who were less fortunate and those who did not have many people they could or would turn to for help.

Nurses had a special place with Dr. Hughes. He never forgot how important a good nurse could be in caring for a patient. Although he expected an exemplary performance of their duties, he never lost their admiration and respect because they understood this was to give the best medical care. Anyone going through the hospital since his death, could sense the profound loss this has been to registered nurses, practical nurses, students and aides.

No one knows if he had "taken better care of himself," if he could have been here longer. How can a truly dedicated physician like Dr. Hughes place his own welfare above the welfare of his patients? The night before he died he had worked for hours with a patient who had an amniotic embolus. In a great part due to his early recognition and faithful attendance, this will become the sixteenth reported case to be treated successfully. This is a fitting tribute to this obstetrician.

Dr. Hughes will not be forgotten by any who knew him. We can all look to his life as an example of practicing medicine with the very highest standards.

The passage, Ecclesiasticus 38:1-8 (The Apocrypha), read at his funeral seemed particularly fitting:

"Honor the physician with the honor due him,  
according to your need of him,  
for the Lord created him;  
for healing comes from the Most High,  
and he will receive a gift from the king.  
The skill of the physician lifts up his head,  
and in the presence of great men he is admired.  
The Lord created medicines from the earth,  
and a sensible man will not despise them.  
And he gave skill to men  
that he might be glorified in  
his marvelous works.  
By them he heals and takes away  
pain;  
His works will never be finished;  
and from him health is upon  
the face of the earth."

JOSEPH M. DAMRON, M.D.

*The discomforts of*  
**DIARRHEA**  
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*are relieved by  
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**Precautions:** Before prescribing, carefully select patients, avoiding those responsive to routine measures as well as contraindicated patients. Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should not exceed recommended dosage, should be closely supervised and should be warned to discontinue the drug and report immediately if fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage occur. Make regular blood counts. Discontinue the drug immediately and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

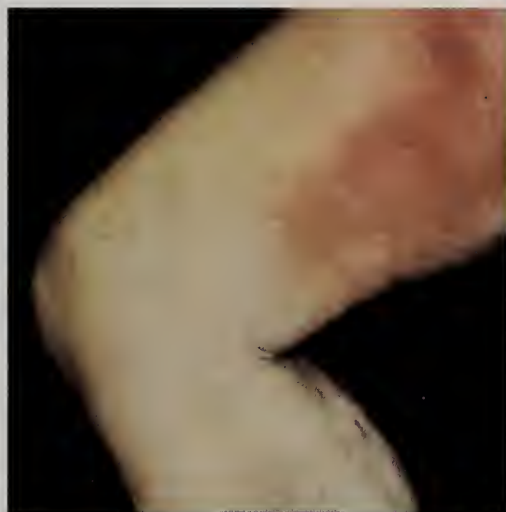
**Adverse Reactions:** The most common are nausea, edema and drug rash. Swelling of the ankles or face may be minimized by withholding dietary salt, reduction in dosage or use of diuretics. In elderly patients and in those with hypertension the drug should be discontinued with the appearance of edema. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. The patient should be instructed to take doses immediately before or after meals or with milk to minimize gastric upset. Mild drug rashes frequently subside with reduction of dosage. However, rash accompanied by fever or other systemic reactions usually requires withholding medication. Purpuric rash has also been reported. Agranulocytosis, exfoliative dermatitis, Stevens-Johnson syndrome, or a generalized allergic reaction similar to serum sickness may occur and require permanent withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported. While not definitely attributable to the drug, a causal relationship cannot be excluded. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

**Dosage in Acute Superficial Thrombophlebitis:** Initial: 6 capsules or tablets daily in divided doses for 2 or 3 days. Maintenance: 3 capsules or tablets daily. Usual duration of therapy is 5 to 7 days (rarely beyond 10 days). 6509-V(B)R2

\*Stein, I.D.: Presented at the American Academy of General Practice, Dallas, Sept. 1967.

**For complete details, please see full prescribing information.**

# it used to take weeks



Acute superficial thrombophlebitis before treatment



After 5 days of Butazolidin therapy

In acute superficial thrombophlebitis, patients were usually bedfast for 2 to 4 weeks, tying up hospital beds, requiring costly nursing care and time-consuming procedures such as warm soaks and packs.

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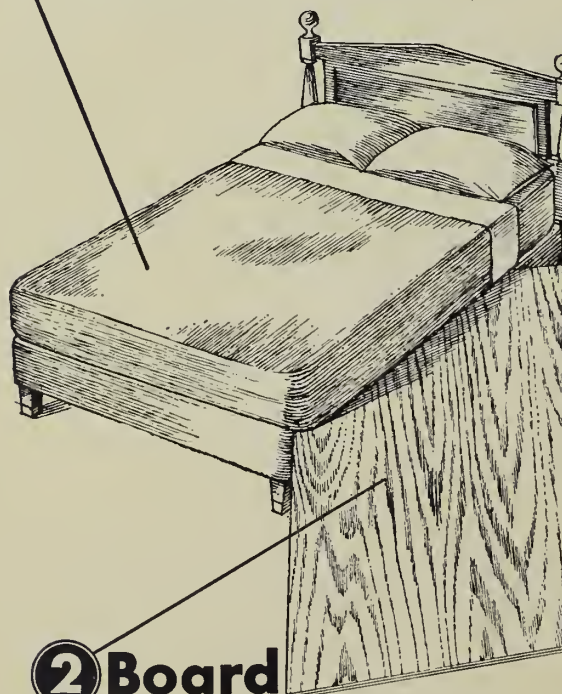


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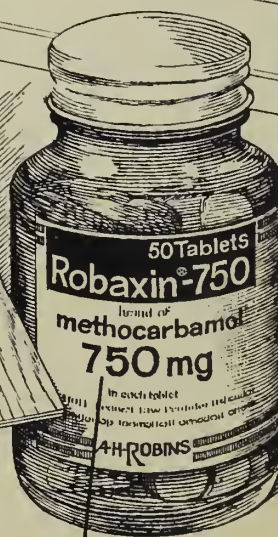
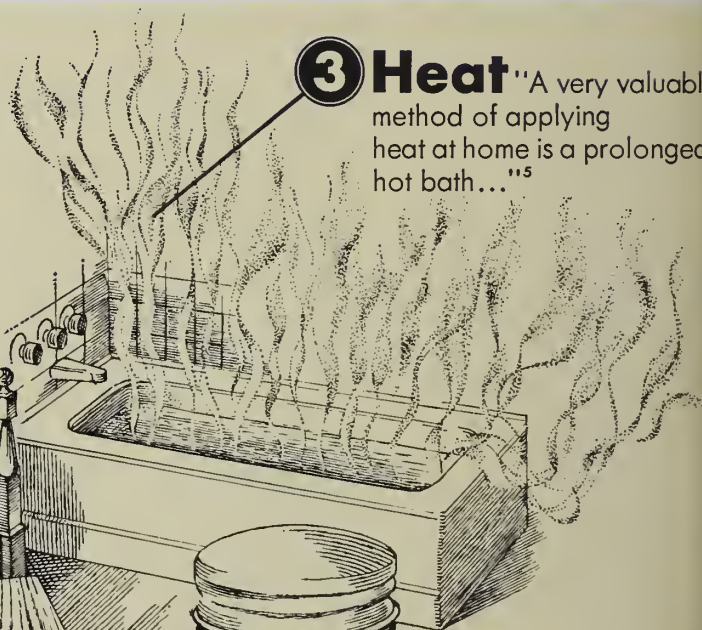
The low back pain that is most frequently seen in general practice is mechanical in nature, i.e., postural back pain, joint dysfunction and acute back strain.<sup>1,2</sup> For this type of discomfort, a conservative regimen is usually sufficient to relieve aches and pains, and to help keep the patient functioning. Components of this basic program include:

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References: (1). Gadfrey, C.M.: Applied Therap. 8:950, 1966. (2). Gattschalk, L.A.: GP 33:91, 1966. (3). Rowe, M.L.: J. Occup. Med. 2:219, 1960. (4). Cazen, L.: South Dakota J. Med. 18:26, 1965. (5). Sata-Hall, R.: Med. Sc. 14:23, 1963. (6). Weiss, M. and Weiss, S.: J. Am. Osteopath. A. 62:142, 1962. (7). Feuer, S.G., et al.: New York J. Med. 62:1985, 1962.

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Mercuhydrin is indicated in edema of cardiac or hepatic origin and in the nephrotic syndrome; it is contraindicated in acute nephritis and in anuric or oliguric states. *The usual adult dose is one to two cc. daily or every other day until "dry weight" is obtained.* Sensitivity is rare but small initial doses are advised to minimize potential reactions; vertigo, fever, and rash have occurred. Overdosage may produce electrolyte depletion, muscle cramps, and G.I. reactions. Supplied: 1 cc. and 2 cc. ampuls in boxes of 12, 25 and 100; 10 cc. rubber capped, multiple-dose vials (intramuscular or subcutaneous use only) in boxes of 6 and 100.

1. Gold, Harry, et al.: *A System for the Routine Treatment of the Failing Heart*, The American Journal of Medicine, Vol. III, No. 6:665-692 (Dec.) 1956.

2. Modell, Walter: *Drugs of Choice* 1966-1967, p. 97, 1966.

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of

# Obesity Oddities

FACT & LEGEND

## CHARLES DICKENS' "FAT BOY JOE" in Pickwick Papers

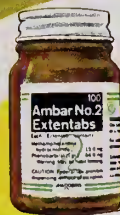
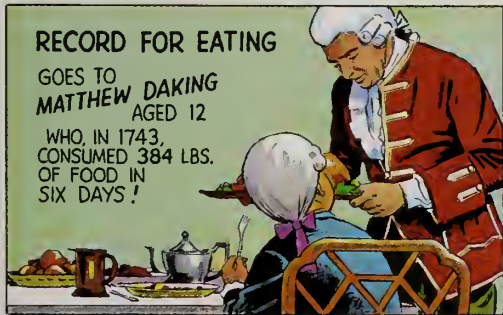
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CONTROL FOOD AND MOOD ALL DAY LONG WITH A SINGLE MORNING DOSE

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Also available: Ambar #1 Extentabs®—methamphetamine hydrochloride 10 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

## AMBAR #2 EXTENTABS®

methamphetamine HCl 15 mg.,  
phenobarbital 64.8 mg. (1 gr.)  
(Warning: may be habit forming).

**BRIEF SUMMARY/Indications:** Ambar suppresses appetite and helps offset emotional reactions to dieting. **Contraindications:** Hypersensitivity to barbiturates or sympathomimetics; patients with advanced renal or hepatic disease. **Precautions:** Administer with caution in the presence of cardiovascular disease or hypertension. **Side Effects:** Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. See package insert for further details.

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a snap again,”  
he said  
gingerly.  
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Help clear up that miserable stuffed-up feeling with Dimetapp. Each hard-working Extentab brings welcome relief from the stuffiness, drip and congestion of upper respiratory conditions for up to 10-12 hours. Yet, patients seldom experience drowsiness or overstimulation. The key to success is the Dimetapp formula: Dimetane (brompheniramine maleate)—along with phenylephrine and phenylpropanolamine, two time-tested decongestants. They get the job done... in a hurry.

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**Precautions:** Until patient's response has been determined, he should be cautioned against engaging in operations requiring alertness. Administer with care

to patients with cardiac or peripheral vascular diseases or hypertension.

**Side Effects:** Hypersensitivity reactions including skin rashes, urticaria, hypotension and thrombocytopenia, have been reported on rare occasions. Drowsiness, lassitude, nausea, giddiness, dryness of the mouth, mydriasis, increased irritability or excitement may be encountered.

**Dosage:** 1 Extentab morning and evening.

**Supplied:** Bottles of 100 and 500.

A.H. ROBINS COMPANY  
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up to 10-12 hours clear  
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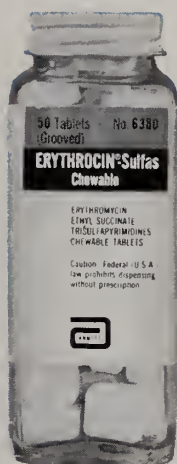
Baltimore & Light Sts., Baltimore, Md. 21202 301-SA 7-2960



Perhaps there have been times when you wanted to prescribe erythromycin and triple sulfas for little patients. Now you can—with a choice of two new fine-tasting pediatric forms.



# New—Two Pediatric Forms of Erythromycin and Triple Sulfas



## ERYTHROCIN<sup>®</sup>-SULFAS Chewable

(Erythromycin ethyl succinate-trisulfapyrimidines chewable tablet)

In clinical trials<sup>1,2</sup>, this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

Diagnoses (multiple in some cases) represented a cross section of bacterial infections commonly seen in pediatric office practice.

Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

### A clinical cure rate of 94.5%

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.



## ERYTHROCIN<sup>®</sup>-SULFAS Granules

(Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated<sup>1,2</sup>—all children, ages four months to 15 years.

The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

701358

### A clinical cure rate of 97.7%



Brief  
Summary  
on next  
page

# ERYTHROCIN<sup>®</sup>-SULFAS

## Brief Summary

**Contraindications:** Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

**Warnings:** As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

**Precautions, Side Effects:** Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steroids, etc.) should be administered and the drug withdrawn.

**Adverse Reactions:** Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

**Supplied:** The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.

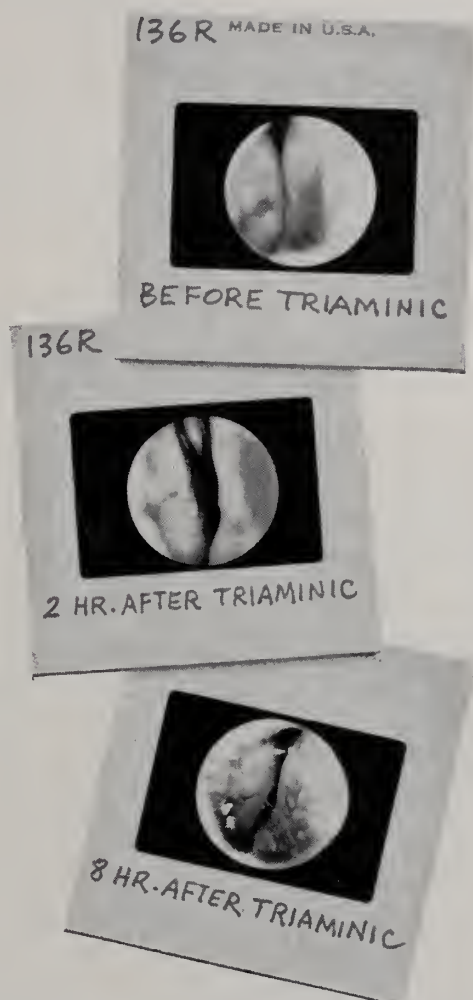
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From a continuing study on nasal congestion...



# timed to work while your patient does

A study being conducted by the Department of Otolaryngology, Greater Baltimore Medical Center is stockpiling evidence that points to the fast action and prolonged relief effected by Triaminic in the treatment of nasal congestion.

Begun in March 1966, the study to date has encompassed 85 patients with common nasal disorders—

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## **Triaminic<sup>®</sup>** *timed-release tablets*

Each timed-release tablet contains:

Phenylpropanolamine hydrochloride ..... 50mg.    Pyrilamine maleate ..... 25mg.    Pheniramine maleate ..... 25mg.

Side effects: Occasional drowsiness, blurred vision, cardiac palpitations, flushing, dizziness, nervousness or gastrointestinal upsets.

Precautions: The patient should be advised not to drive a car or operate dangerous machinery if drowsiness occurs. Use with caution in patients with hypertension, heart disease, diabetes or thyrotoxicosis.

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Tareyton's charcoal filter  
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you'd have  
a better cigarette.**



**Of course we can't guarantee it'll smoke as smooth as a Tareyton.**

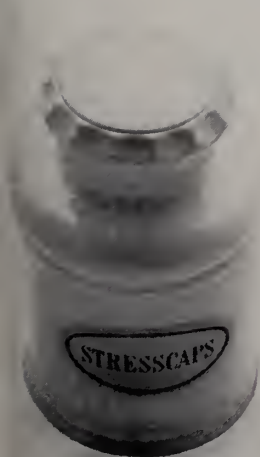


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# in chronic illness

*B and C vitamins are part of therapy:* An imbalance of water-soluble vitamins and chronic illness often go hand in hand. STRESSCAPS capsules, containing therapeutic quantities of vitamins B and C, are formulated to meet the increased metabolic demands of patients with physiologic stress. In chronic illness, as with many stress conditions, STRESSCAPS vitamins are therapy.



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Each capsule contains:  
Vitamin B<sub>1</sub> (as Thiamine Mononitrate) 10 mg  
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Vitamin B<sub>12</sub> Crystalline 4 mcgm  
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Recommended intake: Adults, 1 capsule daily, for the treatment of vitamin deficiencies. Supplied in decorative "reminder" jars of 30 and 100; bottles of 500.

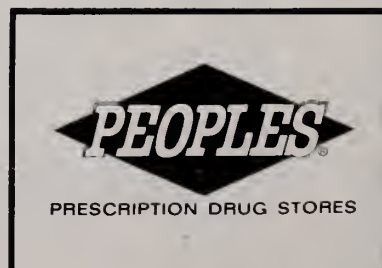
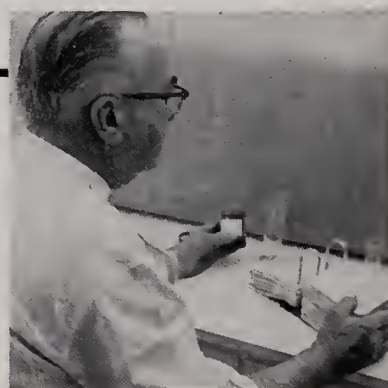
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bisacodyl

DU-5255 R

Few drugs work as predictably as Dulcolax. You can expect that when your office patient takes Dulcolax at home, it will be as effective as you said it would be. Your patient will be gratified, too.

The reliability of Dulcolax stems from its unique mode of action. The drug works directly on nerve endings in the colonic mucosa, producing normal peristalsis throughout the large intestine. It does not rely on systemic absorption for its effect.

This reliable action provides prompt relief of constipation. It also makes Dulcolax par-

ticularly useful for prepping the bowel for special procedures. In short, it makes Dulcolax ideal for your office practice.



Dulcolax acts so surely that the time of evacuation can often be closely predicted. Dulcolax tablets taken at night almost invariably result in a bowel movement soon after waking the following morning. Dulcolax suppositories generally work in 15 to 20 minutes, almost always within the hour.

**General Dosage Information:** *Adults:* When an ordinary laxative effect is desired, 1 to 3 tablets or 1 suppository usually suffices. Tablets must be swallowed whole, not chewed or crushed, and should not be taken within one hour of antacids or milk. *Children:* 1 or 2 tablets, depending on age and severity of condition. Tablets must not be given to a child too young to swallow them whole. For infants and children under 2 years of age, half a suppository is usually effective. Above this age a whole suppository is usually advisable. **Side Effects:** As with any laxative, abdominal cramps are occasionally noted, particularly in

severely constipated persons. High dosage may result in loose, unformed stools. **Contraindication:** Contraindicated only in acute surgical abdomen. **Availability:** Tablets (5 mg.) and suppositories (10 mg.). By prescription or recommendation.

Under license from Boehringer Ingelheim G.m.b.H.

Geigy Pharmaceuticals  
Division of Geigy Chemical Corporation, Ardsley, N.Y.





*"Yes, Doctor, the pain is gone."*

**'EMPIRIN'® COMPOUND with CODEINE PHOSPHATE gr. 1/2 No. 3**

Each tablet contains: Codeine Phosphate gr. 1/2 (Warning - May be habit forming),  
Phenacetin gr. 2 1/2, Aspirin gr. 3 1/2, Caffeine gr. 1/2.

■ Despite introduction of synthetic substitutes, efficacy of 'Empirin'  
Compound with Codeine remains unchallenged.



BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N.Y.



# When the talk turns to oral contraceptives, it makes medical sense to remember low-dose Norinyl-1.

(norethindrone 1mg,  $\bar{c}$  mestranol 0.05mg.)

Turn page for contraindications, precautions and side effects.





#### *Prescribing Information*

**Contraindications:** Patients with any symptoms or history of thrombophlebitis, pulmonary embolism, liver dysfunction or disease, carcinoma of breast or genital organs, or undiagnosed vaginal bleeding.

**Warnings:** Discontinue medication pending examination if there is sudden partial or complete loss of vision, proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn. The safety of Norinyl-1 in pregnancy has not been demonstrated. If a patient misses two consecutive periods, pregnancy should be ruled out before continuing the medication. If she has not adhered to the prescribed schedule, pregnancy should be considered at the first missed period. Active ingredients of oral contraceptives have been detected in the milk of mothers who received these drugs; the significance to infants has not been determined.

**Precautions:** Pretreatment physical should include examination of the breasts and pelvic organs, as well as a Papanicolaou smear. If endocrine or liver function tests are abnormal during therapy, repeat tests are recommended after the drug has been withdrawn for two months. Following administration of drug, preexisting uterine fibromyomata may increase in size. Careful observation and caution are required for patients with symptoms or history of epilepsy, migraine, asthma, cardiac or renal dysfunction, cerebrovascular accident, psychic depression, and diabetes. In cases of undiagnosed vaginal bleeding, adequate diagnostic measures are indicated. Possible long-term effects of the drug on pituitary, ovarian, adrenal, hepatic or uterine function must await further studies. The physician should be alert to the earliest manifestations of thrombophlebitis and pulmonary embolism. The drug should be used judiciously in those young patients in whom bone growth is not complete. The age of the patient constitutes no absolute limiting factor, although treatment with Norinyl-1 may mask symptoms of the climacteric. The pathologist should be advised of Norinyl-1 therapy when relevant specimens are submitted.

**Side Effects:** The following have been observed with varying incidence in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms, breakthrough bleeding, spotting, change in menstrual flow, amenorrhea, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately postpartum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals, mental depression. Although the following side effects have been reported in users of oral contraceptives, no cause and effect relationship has been established: anovulation posttreatment, premenstruallike syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption, and itching. The following occurrences have been observed in users of oral contraceptives (a cause and effect relationship has neither been established nor disproved): thrombophlebitis, pulmonary embolism, neuroocular lesions.

The following laboratory tests may be altered by the use of oral contraceptives: increased sulfobromophthalein and other hepatic function tests, coagulation tests (increase in prothrombin, factors VII, VIII, IX and X), thyroid function (increase in PBI and butanol extractable protein-bound iodine and decrease in  $T^3$  values), metyrapone test, pregnanediol determination.

norethindrone — an original steroid from  
**SYNTEX**   
LABORATORIES INC., PALO ALTO, CALIF.

Reduction of oral contraceptive dosage to the lowest effective levels is a well-accepted principle of conservative medical practice. In keeping with this view, Norinyl is now also available as Norinyl-1, containing exactly one half the previous dosage of norethindrone and mestranol. Clinical experience has established that effective fertility control can be achieved with the same degree of reliability and safety with new Norinyl-1 when taken as directed.

#### What about switching patients from higher dosage forms?

In transferring patients to low-dose Norinyl-1 from higher-dosage oral contraceptives, some breakthrough bleeding may occur in the early cycles. In the majority of cases the bleeding episode is mild and self-limited. The long-term advantages of the lower dosage form should be weighed against the inconvenience of possible breakthrough bleeding in the individual patient.

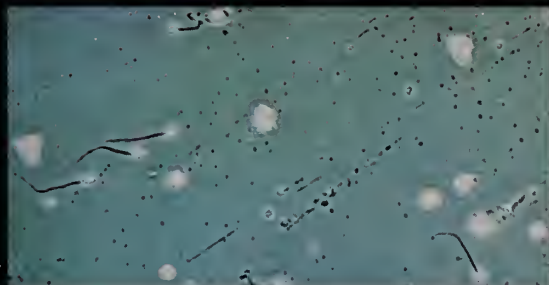
# Here's why Norinyl-1 makes medical sense.

The effectiveness of Norinyl-1 as a low-dose oral contraceptive may be explained by its possible multiple action. In addition to its primary action of suppression of ovulation, Norinyl-1 may offer additional protective mechanisms... (1) creation of a cervical mucus that may be hostile to sperm penetration, and (2) development of an endometrium that may be out of phase with nidation. These effects are illustrated below.

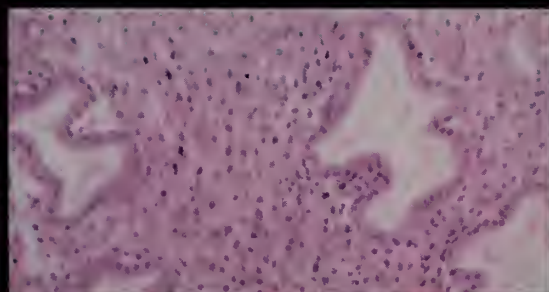
## Untreated Patient



Cervical mucus at midcycle is usually thin and watery, with Spinnbarkeit (stretchability) of 15 to 20 cm.



Spermatozoa appear healthy, active, freemoving.



Endometrium of untreated patient is receptive to the fertilized ovum during secretory phase.

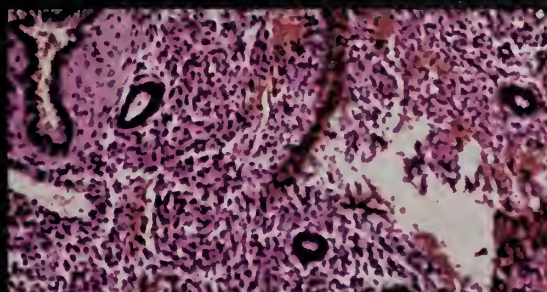
## Norinyl-1 Patient



Cervical mucus at midcycle is scanty, viscous—with Spinnbarkeit of 1 cm. or less.



Immobile spermatozoa as they appear in cervical mucus taken from patient treated with Norinyl-1.



Norethindrone in Norinyl-1 accelerates secretory phase, suppresses glandular and vascular development.

**Norinyl-1**<sup>®</sup>  
(norethindrone 1mg. & mestranol 0.05mg.) tablets

- new low dose of time-proved ingredients
- established norethindrone/mestranol ratio
- lower patient cost



# An uncommon steroid for common inflammatory dermatoses

In everyday topical steroid therapy, Synalar produces rapid resolution of inflammation and itching in steroid-responsive dermatoses—and at relatively low cost to the patient.

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Synalar combines the advantage of earlier corticosteroid compounds with unique structural innovations. As a result, preparations of Synalar 0.01% and Synalar 0.025% have been reported to be more potent topically and significantly more effective than hydro-

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where previous therapy with other topical corticosteroids has failed.

## **Low patient cost for wider usefulness**

With Synalar, a high degree of efficacy does not mean high price. And—a small quantity goes a long way. Thus, your patients can often obtain the “economy” of a hydrocortisone preparation with the proved efficacy of a potent, truly advanced steroid.

**Synalar<sup>®</sup>**  
fluocinolone acetonide







Turn page for contraindications, precautions and side effects.

For everyday topical steroid therapy

# Synalar® 0.01%

fluocinolone acetonide

provides economy in two practical dosage forms

For general use, the most economical and widely applicable concentration of Synalar is 0.01% Cream in a water-washable, vanishing cream base. Synalar Solution 0.01% is especially valuable in dermatoses involving moist, intertriginous areas or hairy sites where creams and ointments do not spread or penetrate readily. Synalar Solution is a unique dosage form—clear, nongreasy, cosmetically elegant.

#### Product Information

**Contraindications:** Tuberculous, fungal, and most viral lesions of the skin (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components.

**Precautions:** Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. Where severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for

prolonged periods of time. **Side Effects:** Side effects are uncommon with topical corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. In such cases the agent should be discontinued and appropriate measures taken.

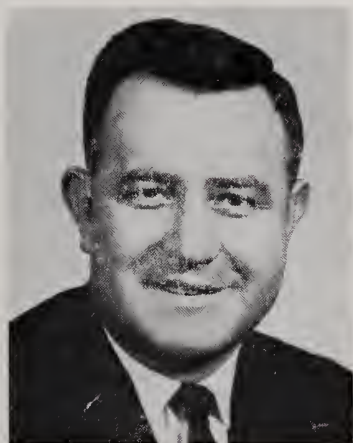
**Availability:** Synalar (fluocinolone acetonide) Cream 0.025%—5, 15 and 60 Gm. tubes and 425 Gm. jars. Cream 0.01%—15, 45 and 60 Gm. tubes and 120 Gm. jars. Solution 0.01%—20 and 60 cc. plastic squeeze bottles. Ointment 0.025%—15 and 60 Gm. tubes. Neo-Synalar® (neomycin sulfate 0.5% [0.35% neomycin base], fluocinolone acetonide 0.025%) Cream—5, 15 and 60 Gm. tubes.

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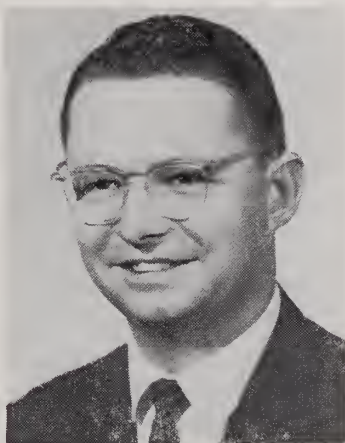


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**LIBRITABS<sup>™</sup>** (chlordiazepoxide)  
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Before prescribing, please consult complete product information, a summary of which follows:

**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of child-bearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver-function tests advisable during protracted therapy.

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LAKESIDE

Diarrhea, one of the most vexing symptoms of common G. I. disorders can often be curbed with Cantil (mepenzolate bromide), bringing welcome relief to the harassed patient. Relatively specific for the hyperactive colon, it helps reduce diarrhea, pain and spasm with minimal effect on other viscera. Cantil (mepenzolate bromide) is indicated whenever these symptoms are associated with irritable colon, gastroenteritis, diverticulitis, and mild to moderate ulcerative colitis.

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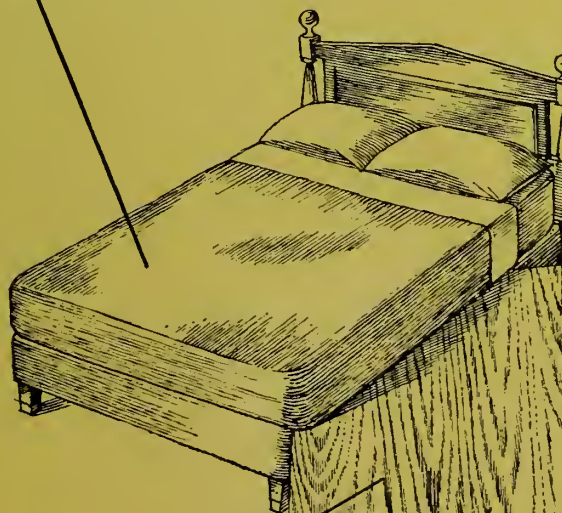


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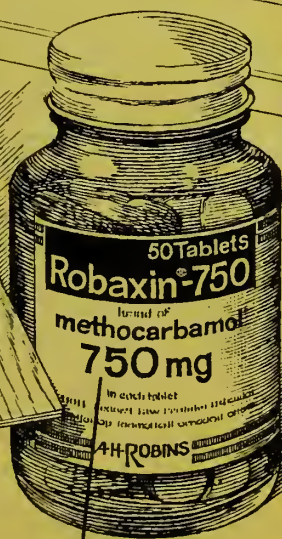
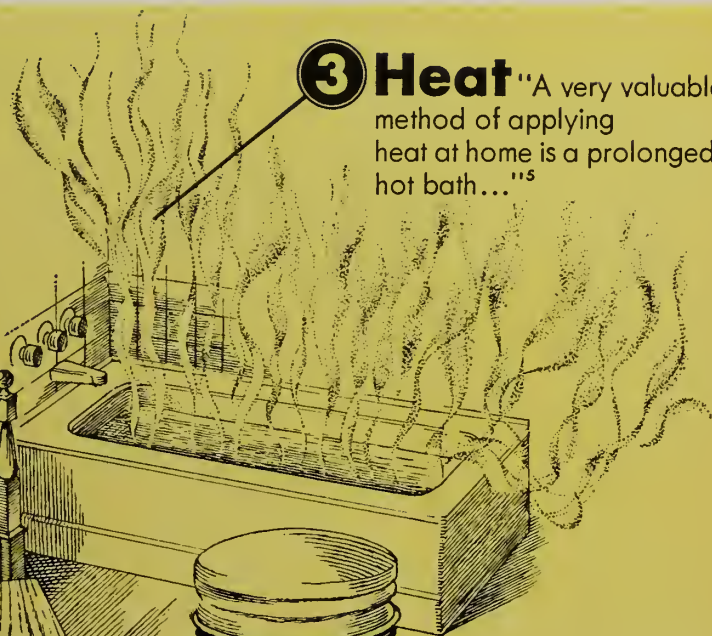
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References: (1). Godfrey, C.M.: Applied Therap. 8:950, 1966. (2). Gottschalk, L.A.: GP 33:91, 1966. (3). Rowe, M.L.: J. Occup. Med. 2:219, 1960. (4). Cozen, L.: South Dakota J. Med. 18:26, 1965. (5). Soto-Hall, R.: Med. Sc. 14:23, 1963. (6). Weiss, M. and Weiss, S.: J. Am. Osteopath. A. 62:142, 1962. (7). Feuer, S.G., et al.: New York J. Med. 62:1985, 1962.

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(norethindrone 1mg,  $\bar{c}$  mestranol 0.05mg.)

Turn page for contraindications, precautions and side effects.





#### *Prescribing Information*

**Contraindications:** Patients with any symptoms or history of thrombophlebitis, pulmonary embolism, liver dysfunction or disease, carcinoma of breast or genital organs, or undiagnosed vaginal bleeding.

**Warnings:** Discontinue medication pending examination if there is sudden partial or complete loss of vision, proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn. The safety of Norinyl-1 in pregnancy has not been demonstrated. If a patient misses two consecutive periods, pregnancy should be ruled out before continuing the medication. If she has not adhered to the prescribed schedule, pregnancy should be considered at the first missed period. Active ingredients of oral contraceptives have been detected in the milk of mothers who received these drugs; the significance to infants has not been determined.

**Precautions:** Pretreatment physical should include examination of the breasts and pelvic organs, as well as a Papanicolaou smear. If endocrine or liver function tests are abnormal during therapy, repeat tests are recommended after the drug has been withdrawn for two months. Following administration of drug, preexisting uterine fibromyomata may increase in size. Careful observation and caution are required for patients with symptoms or history of epilepsy, migraine, asthma, cardiac or renal dysfunction, cerebrovascular accident, psychic depression, and diabetes. In cases of undiagnosed vaginal bleeding, adequate diagnostic measures are indicated. Possible long-term effects of the drug on pituitary, ovarian, adrenal, hepatic or uterine function must await further studies. The physician should be alert to the earliest manifestations of thrombophlebitis and pulmonary embolism. The drug should be used judiciously in those young patients in whom bone growth is not complete. The age of the patient constitutes no absolute limiting factor, although treatment with Norinyl-1 may mask symptoms of the climacteric. The pathologist should be advised of Norinyl-1 therapy when relevant specimens are submitted.

**Side Effects:** The following have been observed with varying incidence in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms, breakthrough bleeding, spotting, change in menstrual flow, amenorrhea, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately postpartum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals, mental depression. Although the following side effects have been reported in users of oral contraceptives, no cause and effect relationship has been established: anovulation posttreatment, premenstruallike syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption, and itching. The following occurrences have been observed in users of oral contraceptives (a cause and effect relationship has neither been established nor disproved): thrombophlebitis, pulmonary embolism, neuroocular lesions.

The following laboratory tests may be altered by the use of oral contraceptives: increased sulfobromophthalein and other hepatic function tests, coagulation tests (increase in prothrombin, factors VII, VIII, IX and X), thyroid function (increase in PBI and butanol extractable protein-bound iodine and decrease in  $T^3$  values), metyrapone test, pregnanediol determination.

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**SYNTEX**  
LABORATORIES INC., PALO ALTO, CALIF.

Reduction of oral contraceptive dosage to the lowest effective levels is a well-accepted principle of conservative medical practice. In keeping with this view, Norinyl is now also available as Norinyl-1, containing exactly one half the previous dosage of norethindrone and mestranol. Clinical experience has established that effective fertility control can be achieved with the same degree of reliability and safety with new Norinyl-1 when taken as directed.

#### What about switching patients from higher dosage forms?

In transferring patients to low-dose Norinyl-1 from higher-dosage oral contraceptives, some breakthrough bleeding may occur in the early cycles. In the majority of cases the bleeding episode is mild and self-limited. The long-term advantages of the lower dosage form should be weighed against the inconvenience of possible breakthrough bleeding in the individual patient.



# Here's why Norinyl-1 makes medical sense.

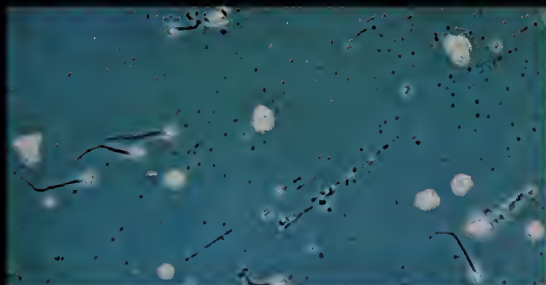
The effectiveness of Norinyl-1 as a low-dose oral contraceptive may be explained by its possible multiple action. In addition to its primary action of suppression of ovulation, Norinyl-1 may offer additional protective mechanisms... (1) creation of a cervical mucus that may be hostile to sperm penetration, and (2) development of an endometrium that may be out of phase with nidation.

These effects are illustrated below.

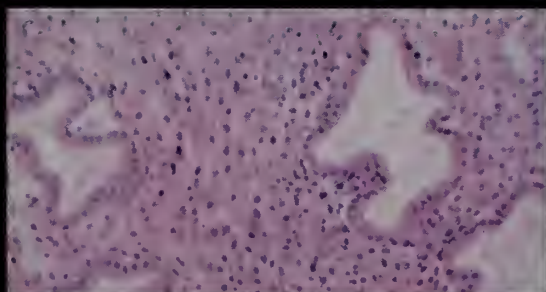
## Untreated Patient



Cervical mucus at midcycle is usually thin and watery, with Spinnbarkeit (stretchability) of 15 to 20 cm.



Spermatozoa appear healthy, active, freemoving.

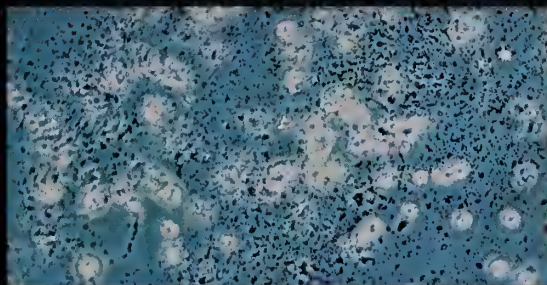


Endometrium of untreated patient is receptive to the fertilized ovum during secretory phase.

## Norinyl-1 Patient



Cervical mucus at midcycle is scanty, viscous—with Spinnbarkeit of 1 cm. or less.



Immobile spermatozoa as they appear in cervical mucus taken from patient treated with Norinyl-1.



Norethindrone in Norinyl-1 accelerates secretory phase, suppresses glandular and vascular development.

**Norinyl-1**<sup>®</sup>  
(norethindrone 1mg, & mestranol 0.05mg) **tablets**

- new low dose of time-proved ingredients
- established norethindrone/mestranol ratio
- lower patient cost

# An uncommon steroid for common inflammatory dermatoses

In everyday topical steroid therapy, Synalar produces rapid resolution of inflammation and itching in steroid-responsive dermatoses—and at relatively low cost to the patient.

## **Advanced molecular design enhances potency**

Synalar combines the advantage of earlier corticosteroid compounds with unique structural innovations. As a result, preparations of Synalar 0.01% and Synalar 0.025% have been reported to be more potent topically and significantly more effective than hydro-

cortisone 1.0%. The unique fluocinolone acetonide molecule provides one of the most useful topical corticosteroids for everyday practice.

## **Impressive clinical results in a wide range of dermatologic problems**

The clinical efficacy of Synalar has been extensively documented in the world literature. Commonly encountered diseases such as allergic and contact dermatitis, eczematous and seborrheic dermatitis, and neurodermatitis respond rapidly to Synalar, often

where previous therapy with other topical corticosteroids has failed.

## **Low patient cost for wider usefulness**

With Synalar, a high degree of efficacy does not mean high price. And—a small quantity goes a long way. Thus, your patients can often obtain the “economy” of a hydrocortisone preparation with the proved efficacy of a potent, truly advanced steroid.

**Synalar<sup>®</sup>**  
fluocinolone acetonide







Turn page for contraindications, precautions and side effects.



# For everyday topical steroid therapy

# **Synalar® 0.01%**

## fluocinolone acetonide

## provides economy in two practical dosage forms

For general use, the most economical and widely applicable concentration of Synalar is 0.01% Cream in a water-washable, vanishing cream base. Synalar Solution 0.01% is especially valuable in dermatoses involving moist, intertriginous areas or hairy sites where creams and ointments do not spread or penetrate readily. Synalar Solution is a unique dosage form—clear, nongreasy, cosmetically elegant.

### Product Information

**Contraindications:** Tuberculous, fungal, and most viral lesions of the skin (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components.

**Precautions:** Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. Where severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for

prolonged periods of time. **Side Effects:** Side effects are uncommon with topical corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. In such cases the agent should be discontinued and appropriate measures taken.

**Availability:** Synalar (fluocinolone acetonide) Cream 0.025%—5, 15 and 60 Gm. tubes and 425 Gm. jars. Cream 0.01%—15, 45 and 60 Gm. tubes and 120 Gm. jars. Solution 0.01%—20 and 60 cc. plastic squeeze bottles. Ointment 0.025%—15 and 60 Gm. tubes. Neo-Synalar® (neomycin sulfate 0.5% [0.35% neomycin base], fluocinolone acetonide 0.025%) Cream—5, 15 and 60 Gm. tubes.

fluocinolone acetonide—an original steroid from  
**SYNTEX**  
 LABORATORIES INC., PALO ALTO, CALIF.



IRON DEFICIENCY

# ANEMIA



## Imferon® (iron dextran injection)

There's as much iron . . . 250 mg. . . in a 5 cc. ampul of Imferon (iron dextran injection) as in a pint of whole blood. When iron deficient patients are intolerant of oral iron . . . or orally administered iron proves ineffective or impractical . . . or if the patient cannot be relied upon to take oral iron as prescribed, Imferon (iron dextran injection) dependably increases hemoglobin and rapidly replenishes iron reserves. Precise dosage is easily calculated.



**IN BRIEF: ACTION AND USES:** A single dose of Imferon (iron dextran injection) will measurably begin to raise hemoglobin and a complete course of therapy will effectively rebuild iron reserves. The drug is indicated only for specifically-diagnosed cases of iron deficiency anemia and then only when oral administration of iron is ineffective or impractical. Such iron deficiency may include: patients in the last trimester of pregnancy; patients with gastrointestinal disease or those recovering from gastrointestinal surgery; patients with chronic bleeding with continual and extensive iron losses not rapidly replenishable with oral iron; patients intolerant of blood transfusion as a source of iron; infants with hypochromic anemia; patients who cannot be relied upon to take oral iron.

**COMPOSITION:** Imferon (iron dextran injection) is a well-tolerated solution of iron dextran complex providing an equivalent of 50 mg. in each cc. The solution contains 0.9% sodium chloride and has a pH of 5.2-6.0. The 10 cc. vial contains 0.5% phenol as a preservative.

**ADMINISTRATION AND DOSAGE:** Dosage, based upon body weight and Gm. Hb/100 cc. of blood, ranges from 0.5 cc. in infants to 5.0 cc. in adults, daily, every other day, or weekly. Initial test doses are advisable. The total iron requirement for the individual patient is readily obtainable from the dosage chart in the package insert. Deep intramuscular injection in the upper outer quadrant of the buttock, using a Z-track technique, (with displacement of the skin laterally prior to injection), insures absorption and will help avoid staining of the skin. A 2-inch needle is recommended for the adult of average size.

**SIDE EFFECTS:** Local and systemic side effects are few. Staining of the skin may occur. Excessive dosage, beyond the calculated need, may cause hemosiderosis. Although allergic or anaphylactoid reactions are not common, occasional severe reactions have been observed, including three fatal reactions which may have been due to Imferon (iron dextran injection). Urticaria, arthralgia, lymphadenopathy, nausea, headache and fever have occasionally been reported.

**PRECAUTIONS:** If sensitivity to test doses is manifested, the drug should not be given. Imferon (iron dextran injection) must be administered by deep intramuscular injection only. Inject only in the upper outer quadrant of the buttock, not in the arm or other exposed area.

**CONTRAINDICATIONS:** Imferon (iron dextran injection) is contraindicated in patients sensitive to iron dextran complex. Since its use is intended for the treatment of iron deficiency anemia only it is contraindicated in other anemias.

**CARCINOGENICITY POTENTIAL:** Using relatively massive doses, Imferon (iron dextran injection) has been shown to produce sarcoma in rats, mice and rabbits and possibly in hamsters, but not in guinea pigs. The risk of carcinogenesis, if any in man, following recommended therapy with Imferon (iron dextran injection) appears to be extremely small.

**SUPPLIED:** 2 cc. ampuls, boxes of 10, 5 cc. ampuls, boxes of 4, 10 cc. multiple dose vials.

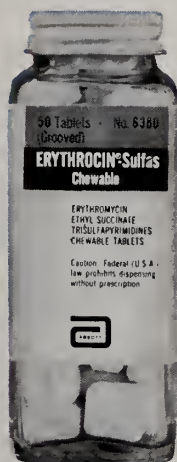
LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201



Perhaps there have been times when you wanted to prescribe erythromycin and triple sulfas for little patients. Now you can—with a choice of two new fine-tasting pediatric forms.



# New—Two Pediatric Forms of Erythromycin and Triple Sulfas



## ERYTHROCIN®-SULFAS Chewable

(Erythromycin ethyl succinate-trisulfapyrimidines chewable tablet)

In clinical trials<sup>1,2</sup>, this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

Diagnoses (multiple in some cases) represented a cross section of bacterial infections commonly seen in pediatric office practice.

Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

**A clinical cure rate of 94.5%**

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.



## ERYTHROCIN®-SULFAS Granules

(Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated<sup>1,2</sup>—all children, ages four months to 15 years.

The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

701358

**A clinical cure rate of 97.7%**



Brief  
Summary  
on next  
page

# ERYTHROCIN®-SULFAS

## Brief Summary

**Contraindications:** Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

**Warnings:** As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

**Precautions, Side Effects:** Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steroids, etc.) should be administered and the drug withdrawn.

**Adverse Reactions:** Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

**Supplied:** The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.

701358



Old age



Convalescence



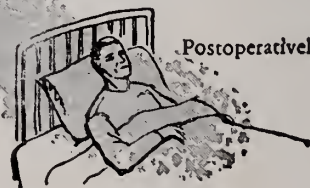
Adolescence



Infant diarrhea



Debilitating gastrointestinal conditions



Postoperatively

Whenever the diet is faulty, the appetite poor, or the loss of food is excessive

*through vomiting or diarrhea—*

## Valentine's MEAT EXTRACT

stimulates the appetite, increases the flow of digestive juices,

provides: supplementary amounts of vitamins, minerals and soluble proteins,

extra-dietary vitamin B<sub>12</sub>,

protective quantities of potassium, in a palatable and readily assimilated form.

Supplied in bottles of 2 or 6 fluidounces.

DOSAGE is 1 teaspoonful two or three times daily; two or three times this amount for potassium therapy. Dilute with two or more equal volumes of water.

**VALENTINE Company, Inc.**

RICHMOND 21, VIRGINIA

# DORSEY "FLU-GRAM"

DON'T BE LULLED BY RELATIVE LACK OF FLU LAST WINTER. THIS WINTER BE PREPARED: WHEN THE COMPLAINTS ARE COUGH AND CONGESTION, YOU CAN RELIEVE THESE SYMPTOMS WITH TUSSAGESIC TABLETS. ONE TIMED-RELEASE TABLET AT MORNING, MIDAFTERNOON AND BEDTIME BRINGS UP TO 24 HOURS' RELIEF FROM TROUBLESOME COUGH AND STUFFED AND RUNNY NOSE. TUSSAGESIC IS THE FAMOUS TRIAMINIC FORMULA, PLUS THREE OTHER PROVED CONSTITUENTS. MAKES PATIENTS MORE COMFORTABLE. FAST. ASK YOUR DORSEY REPRESENTATIVE FOR SUPPLY OF STARTER SAMPLES, OR IF FLU IS ALREADY EPIDEMIC, PHONE COLLECT. SEE BELOW.

each

# Tussagesic®

timed-release tablet contains:

Triaminic®	50 mg.
(phenylpropanolamine hydrochloride 25 mg., pheniramine maleate 12.5 mg., pyrilamine maleate 12.5 mg.)	
Dextromethorphan hydrobromide	30 mg.
Terpin hydrate	180 mg.
Acetaminophen	325 mg.

**Dosage:** Adults—1 tablet, swallowed whole to preserve timed-release feature, in morning, midafternoon and at bedtime. **Side effects:** Occasional drowsiness, blurred vision, cardiac palpitations, flushing, dizziness, nervousness or gastrointestinal upsets. **Precautions:** The patient should be advised not to drive a car or operate dangerous machinery if drowsiness occurs. Use with caution in patients with hypertension, heart disease, diabetes or thyrotoxicosis.

**DORSEY LABORATORIES**  
a division of the Wander Company  
Lincoln, Nebraska 68501

## clip and file under "flu"

For relief of "flu-like" symptoms  
Tussagesic timed-release tablets

### PHONE COLLECT

For emergency starter samples  
to Keith Sehnert, M.D.  
Medical Director  
(402) 434-6311  
Fast delivery by your Dorsey  
Representative



# If it doesn't work in a week, forget it.

**Contraindications:** Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently. Large doses of Butazolidin alka are contraindicated in glaucoma.

**Warning:** If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Instances of severe bleeding have occurred. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

**Precautions:** Before prescribing, carefully select patients, avoiding those responsive to routine measures as well as contraindicated patients. Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should not exceed recommended dosage, should be closely supervised and should be warned to discontinue the drug and re-

port immediately if fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage occur. Make regular blood counts. Discontinue the drug immediately and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

**Adverse Reactions:** The most common are nausea, edema and drug rash. Swelling of the ankles or face may be minimized by withholding dietary salt, reduction in dosage or use of diuretics. In elderly patients and in those with hypertension the drug should be discontinued with the appearance of edema. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. The patient should be instructed to take doses immediately before or after meals or with milk to minimize gastric upset. Mild drug rashes frequently subside with reduction of dosage. However, rash accompanied by fever or other systemic reactions usually requires withholding medication. Purpuric rash has also been reported. Agranulocytosis, ex-

In rheumatoid arthritis, Butazolidin alka needs only a week's trial. If it doesn't work in a week, forget it.

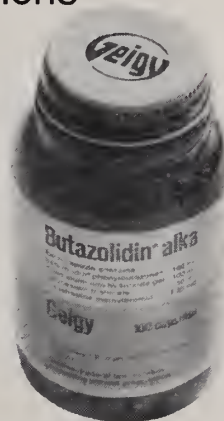
A short trial period may spare patients weeks of discomfort. That's one reason why Butazolidin alka seems a good choice when aspirin fails.

It's not for every patient. Check carefully the Contraindications, Warning, and Precautions shown below.

And adverse reactions may occur. The most common are nausea, edema and rash. Rarely, agranulocytosis has been reported. All adverse reactions are listed below, too.

You'll know quickly if it works.

And most of the time, it will.



foliative dermatitis, Stevens-Johnson syndrome, or a generalized allergic reaction similar to serum sickness may occur and require permanent withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported. While not definitely attributable to the drug, a causal relationship cannot be excluded. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

**Dosage in Rheumatoid Arthritis:** Initial: 3 to 6 capsules or tablets daily in 3 or 4 equal doses. Trial period: 1 week. Maintenance dosage should not exceed 4 capsules or tablets daily; response is often achieved with 1 or 2 capsules or tablets daily. 6509-V(B)R2

**For complete details, please see full prescribing information.**

## Butazolidin® alka

Capsules: phenylbutazone, 100 mg.; dried aluminum hydroxide gel, 100 mg.; magnesium trisilicate, 150 mg.; homatropine methylbromide, 1.25 mg.

*Also available:* Butazolidin®, phenylbutazone: Tablets of 100 mg.



Geigy Pharmaceuticals  
Division of Geigy Chemical Corporation  
Ardsley, New York

80U-5412S

# What kind of douche?

With a plentiful supply of competitive products available, a Doctor has a real problem of selecting which of many similar products he should prescribe for his patients.

When you need a hygienic douche to recommend, pick one that fulfills your requirements and one that is so pleasant and refreshing to your patient that she will be happy to follow your direction and have her condition improve.

For years PMC has been helping to maintain a balanced vaginal acidity favorable for protective Doderlein bacilli to thrive and grow. PMC produces and helps maintain a pH of 4.4. PMC is effective in reduction of *Trichomonas vaginalis*, *monilia albicans*, *Staphylococci*, *Streptococci* and *Escherichia Coli*. PMC is unexcelled in prescribing for vaginitis cervicitis, post-operative and post-partum use.

Your patients will happily continue PMC treatment.

**pmc**  
hygienic powder



Active Ingredients: Menthol, Boric Acid Eucalyptus Oil, Alum, Phenol, Oil of Peppermint, Thymol.

Write or phone for physician's samples.

**T&T**

**THOMAS & THOMPSON CO.**

EST. 1872

Baltimore & Light Sts., Baltimore, Md. 21202 301-SA 7-2960



# If there's a broader susceptibility pattern of organisms, we've yet to see it.

DECLOMYCIN has always belonged in the foremost rank of the broad-spectrum, general-purpose antibiotics. Indeed, no antibiotic has yet appeared which controls a wider range of pathogens responsible for the clinical infections seen in the day-to-day practice of busy medical men.

You can depend on DECLOMYCIN. A twice-daily dose of 300 mg is a sensible schedule that will cover the patient *day and night*, without risk of blood concentrations dropping below therapeutic levels. This is because of high serum binding and slow renal clearance.

And there is no need to give higher daily dosage than 300 mg b.i.d., except in venereal diseases and Eaton Agent pneumonia.

**DECLOMYCIN<sup>®</sup>**  
**DEMETHYLCHLORTETRACYCLINE**

Lederle

Prescribing information on next page.

Eaton Agent

Endamoeba histolytica

Hemophilus influenzae

Pneumococcus

Escherichia coli

Gonococcus

Shigella

Staphylococcus

Streptococcus

Rickettsia

Treponema

Eaton Agent

Endamoeba histolytica

Hemophilus influenzae

Pneumococcus

Escherichia coli

Gonococcus

Shigella

Staphylococcus

Streptococcus

Rickettsia

Treponema

# If there's a broader susceptibility pattern of organisms, we've yet to see it.

**DECLOMYCIN** Demethylchlortetracycline should be equally or more effective therapeutically than other tetracyclines when the offending organisms are tetracycline-sensitive.

**Contraindication:** History of hypersensitivity to demethylchlortetracycline.

**Warning**—In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated, and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort. Necessary subsequent courses of treatment with tetracyclines should be carefully observed.

**Precautions**—Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

**Side Effects**—Gastrointestinal system—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes. A rare case of exfoliative dermatitis has been reported. Photosensitivity; onycholysis and discoloration of the nails (rare). Kidney—rise in BUN, apparently dose related. Transient increase in urinary output, sometimes accompanied by thirst (rare). Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. Teeth—dental staining (yellow-brown) in children of mothers given this drug during the latter half of pregnancy, and in children given the drug during the neonatal period, infancy and early childhood. Enamel hypoplasia has been seen in a few children. If adverse reaction or idiosyncrasy occurs discontinue medication and institute appropriate therapy.

**Average Adult Daily Dosage:** 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products. Treatment of streptococcal infections should continue for 10 days, even though symptoms have subsided.

In the treatment of syphilis a dosage schedule of a total of 12 to 18 Gm. given in equally divided doses over a period of 10 to 15 days should be followed. Close follow-up observation of the patient is recommended, including appropriate laboratory tests, since demethylchlortetracycline has not had adequate evaluation in all stages of syphilis. Spinal fluid examination should be included as part of this follow-up.

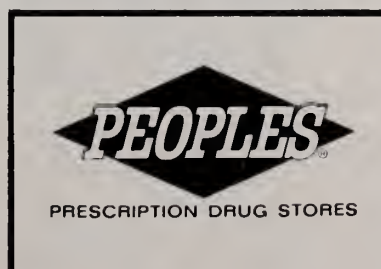
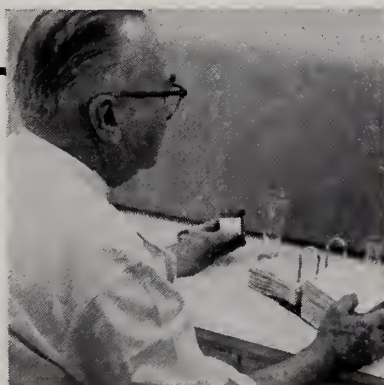
Acute gonococcal anterior urethritis in males has been treated effectively with a single dose of 600-900 mg. of DECLOMYCIN Demethylchlortetracycline. Individuals unable to tolerate large single doses due to gastrointestinal side effects may be treated with 150 mg. every 6 hours for a minimum of 4 doses or 300 mg. every 12 hours for a minimum of 2 doses. Females should be treated with a dosage of 150 mg. every 6 hours or 300 mg. every 12 hours until a cure is effected. Primary Atypical Pneumonia (Eaton Agent): The average adult daily dosage is 900 mg. in 3 divided doses for six days.

**LEDERLE LABORATORIES, A Division of  
American Cyanamid Company, Pearl River, N.Y.**

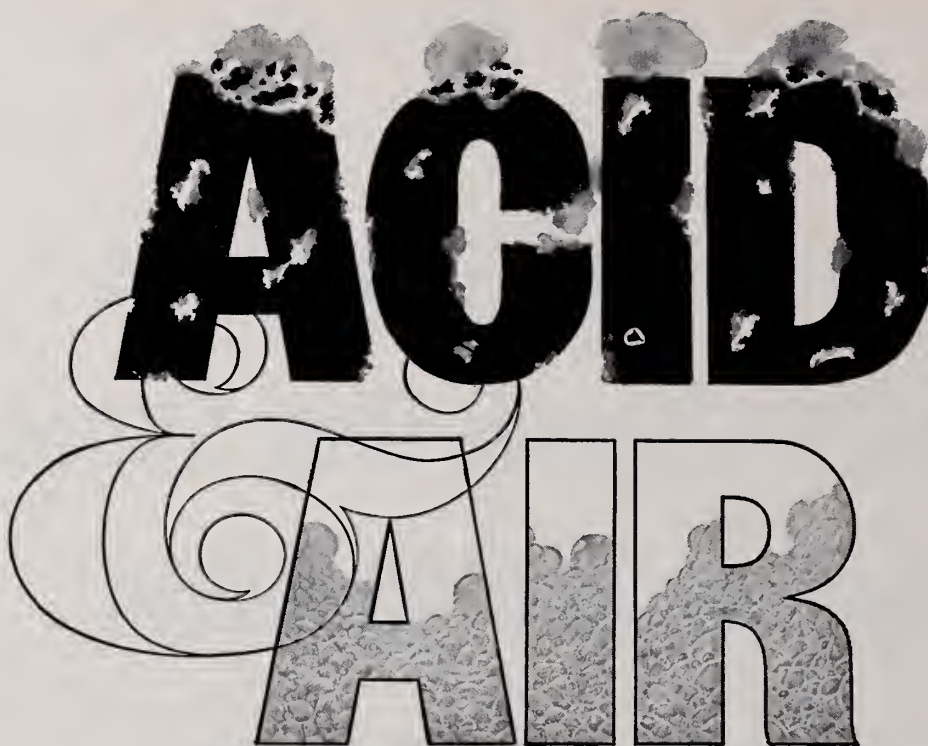


# Count the Prescriptions filled by Peoples Drug Stores and you get 100 million times people have counted on Peoples

We have passed the hundred million mark. That's the number of prescriptions filled by all Peoples Drug Stores since we opened our doors in 1905. We say this with great pride, since this impressive figure illustrates an impressive public confidence. Because behind all prescribed medicine at Peoples is confidence — in the physician who prescribes, the manufacturer who supplies, and the pharmacist who fills the prescription. At Peoples, nothing is more important to us than this confidence.







### DUAL PROBLEM IN PEPTIC ULCER

Relief of hyperacidity is still a primary goal in the treatment of peptic ulcer. And antacids are the most widely used means of achieving this relief. But antacids alone cannot influence the distention and bloating which so often add to ulcer distress.

### THIS IS WHY MYLANTA® PROVIDES:

*the two most widely used antacids—magnesium and aluminum hydroxides—to help secure rapid acid neutralization with little chance of laxation or constipation;*

### PLUS

*the defoaming action of simethicone—to help relieve the painful gas symptoms which often accompany peptic ulcer.*

# Mylanta®

antacid therapy plus an added benefit

nonfatiguing flavor/smooth pleasant texture; both assure patient cooperation during long-term therapy.

**Stuart** Division of / ATLAS CHEMICAL INDUSTRIES, INC. / Pasadena, Calif.



## Diagnosis:

cystitis?  
pyelonephritis?  
pyelitis?  
urethritis?  
prostatitis?  
in any case,  
usually gram-negative\*

## Therapy:

two 500 mg. Caplets® q.i.d.  
(initial adult dose)

### Summary of prescribing information

**Indications:** Urinary tract infections in which gram-negative bacteria are predominant, particularly *Proteus*, *Escherichia coli*, *Aerobacter*, *Klebsiella*, and certain strains of *Pseudomonas*. Gram-positive bacteria are less sensitive to NegGram but favorable clinical results have been observed.

**Warning:** Use in Pregnancy. This drug is not recommended in the first trimester of pregnancy. However, it has been used in several patients during the last two trimesters without producing apparent ill effects in either mother or fetus.

**Precautions:** As with all new drugs, periodic blood and liver function tests are advisable during treatment longer than 1 or 2 weeks. This drug should be used with caution in patients with liver disease, epilepsy, severe cerebral arteriosclerosis, or severe impairment of kidney function. Because photosensitivity reactions have been reported in a small number of cases, patients should be cautioned to avoid unnecessary exposure to direct sunlight while receiving NegGram, and if a photosensitivity reaction occurs, therapy should be discontinued. The dosage recommended for adults and children should not arbitrarily be doubled unless under the careful supervision of a physician. Should bacterial resistance develop or additional nonsensitive strains emerge, other effective antibacterial agents should be added to or substituted for NegGram.

When testing the urine for glucose in patients receiving NegGram, Clinistix® Reagent Strips or Tes-Tape® should be used since other reagents may give a false-positive reaction.

**Adverse reactions:** Mainly mild nausea, vomiting, and other gastrointestinal disturbances; less frequently, sleepiness, drowsiness, weakness, headache, dizziness and vertigo, and rarely cholestasis, paresthesia, thrombocytopenia, leukopenia, or hemolytic anemia in patients with a deficiency in activity of glucose-6-phosphate dehydrogenase. Itching, pruritus, rash, urticaria, mild eosinophilia, reversible photosensitivity reactions primarily involving exposed surfaces, and reversible subjective visual disturbances (overbrightness of lights, change in visual color perception, difficulty in focusing, decrease in visual acuity and double vision), occurred occasionally. Reversible increased intracranial pressure with bulging anterior fontanel, papilledema, and headache has been observed occasionally in infants and children. Toxic psychosis and brief convulsions (the latter generally in patients with possible predisposing factors, and both usually associated with excessive dosage) have been recorded in rare instances.

**Dosage and administration:** Adults—Four Gm. daily by mouth (2 Caplets® of 500 mg. four times daily) for one to two weeks. Thereafter, if prolonged treatment is indicated, the dosage may be reduced to two Gm. daily (1 Caplet of 500 mg. four times daily). Children—According to age and weight: approximately 25 mg. per pound of body weight per day, administered in divided doses.

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**References:** (1) Based on 23 clinical papers, 1512 cases. Bibliography on request. (2) Bush, I. M., Orkin, L. A., and Winter, J. W., in Sylvester, J. C.: Antimicrobial Agents and Chemotherapy—1964, Ann Arbor, American Society for Microbiology, 1965, p. 722.

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*Guest Editorial . . . .*

The Unbalanced Equation

IT WAS RECENTLY MY PLEASURE to hear an excellent panel discussion of thyroid disease. The essayists were internists, well qualified as experts in thyroid problems and their presentations were clear, concise, and to the point.

As one might expect, attention was directed principally toward the control and management of thyrotoxicosis. The employment of "cabbage" drugs, either on a definitive basis or otherwise, surgical ablation of the thyroid gland and the use of radioactive iodine were outlined as the three principal means of approach.

The contributions made in recent years by Astwood, Hertz, Hamilton, and others toward the understanding and management of hyperthyroidism have been immense. Marine and Plummer, through their early employment of iodine, laid the foundation for the exact and relatively simple means now available for thyroid control. To Crotti, the Mayos, Crile, Guthrie, Leahy, and other great goiter surgeons of an earlier era, the contrast between thyroidectomy on the properly prepared patient of today and the harrowing experiences of gland-stealing, polar ligation, and thyroid storm of the 1920's and 1930's would seem incredible.

And yet, something has gone awry. It appears to me that the degree of sophistication which we have attained in the use of thiourea compounds,  $I^{131}$ , and other drugs useful in metabolic control, has lead us to focus so intently upon the problem of hyperthyroidism that we tend to ignore the goiter which also represents an important feature in most of these patients. A feature, I may add, which seldom recedes with management limited strictly to medical measures.

Having been raised in the goiter belt in Ohio, I have vivid recollections

of patients who not only displayed magnificent goiters, but seemed to tolerate them without complaint. The fact remains, however, that the average patient is uncomfortable with his goiter and that there are cogent reasons for removing it.

From a purely cosmetic standpoint, the gland is in an exposed area, and enlargement, particularly nodular enlargement, is unattractive. Moreover, the majority of goiters achieving the size of five centimeters or more become bothersome to one degree or another because of compression. And finally, a small percentage of nodular goiters, perhaps 4%, will harbor papillary or other malignancy.

I suggest that, in the absence of thyroid enlargement, the hyperthyroid patient who qualifies by age and by genetic considerations for the use of  $I^{131}$  be treated by this means. For the hyperthyroid patient with significant goiter, however, euthyroidism should be induced by use of preparatory drugs and followed by bilateral subtotal thyroidectomy. In this manner, the problem is treated in its entirety. In a satisfying preponderance of cases, the patient's sole reminder of his disease will be a thin scar which will virtually disappear with the passage of time.

MONFORD D. CUSTER, JR., M.D.

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*4 South Stewart Street  
Winchester, Virginia*

# Presidential Address

K. KENNETH WALLACE, M.D.  
Norfolk, Virginia

FIRST OF ALL, I want to express appreciation for the high honor which you have bestowed on me. I hope that I have been worthy of your confidence. Tennyson once wrote the following lines which I have tried to make applicable:

"I made them lay their hands in mine, and swear to uphold their conscience."

Surely, during the year I have made mistakes, both of omission and commission. However, I have obeyed my conscience in every decision which I have made. Unfortunately, my errors will be reflected in your inconvenience. It has been a trying year, but, with all, a successful one. We have tried to re-arrange the pieces, and tidy-up a bit following the catastrophe that medicine suffered the year previously. I might add that some of my discomfiture has arisen from the fact that I have followed one of, if not the best President, that The Medical Society of Virginia ever had. He was surely the right person, at the right place, at the right time.

I would like to devote my time initially, to present a short review of our accomplishments. First, and foremost, we have held the line, so far, concerning medicare. Your State organization, through its very agreeable rapport with our delegation in Congress, has been in large measure responsible for this. I might add, right here, that the Washington Office of the A.M.A. has informed me on two distinct occasions that our delegation in Congress, so far as medicine is concerned, is the best of any state. Let's keep it that way.

For several years there has been a widening of the gap between the hospital adminis-

trators and the profession. We promptly took this in stride, and appointed a "Blue Ribbon" committee to meet with one from the administrators, thusly forming a distinct liaison. This, to my mind, has been very gratifying. We have developed and pursued common interests and misunderstandings. We do not hesitate to take before this group complaints, and welcome those from the other side. Your Presiding Officer has been delighted with the end results, and assures you that the potentialities in this area are tremendous.

Gradually, during the years, there has been a distinct widening between the "Town and Gown". As a matter of fact, the practicing portion of the profession has sincerely believed that the teaching portion is opposed to continuation of the private, independent practice of medicine. By the same token, the medical school faculties have become convinced that we are lacking in understanding of their problems, and the necessity for cooperation. Under the circumstances, we have developed a liaison group here, also. We have had two excellent meetings. It is the opinion of your Presiding Officer that, once again, the teaching profession in this State is a part of The Medical Society of Virginia. I would recommend that this liaison be continued, and that its membership be chosen carefully and with impunity.

It has been called to our attention that more and more of the practice of medicine is evolving to the emergency rooms of our hospitals. This is particularly true in the cases of accidents, and after hours. The Public Health people, both on the National and State levels, are indicating considerable interest in this particular area. It is with this

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Presented at the Annual Meeting of The Medical Society of Virginia, Arlington, October 19, 1967.



in mind that we have recently developed a committee specifically to be active in this phase of medical care. We hope that each area will be interested enough to include a representative on this committee. Accidents are taking a tremendous toll of our population, not only in the deaths reported, but also in crippling injuries. It is reasonable to assume that here the medical profession, by virtue of being in the forefront, can accomplish a great deal, provided the emergency room services are of good quality.

We have appointed a committee to study air pollution. This committee, although in its infancy, has already had several outstanding meetings. Senator Spong has indicated an interest in this particular endeavor, and our committee, I am glad to report, has been in direct communication with him. The prevalence of non-tuberculous chest disease is increasing by leaps and bounds, and all of us are cognizant of this. Here, also, the medical profession can assume a beneficial and crediting role. We are ready to work with any group, and especially the government, in this area.

Now, I would like to proceed to what should be listed as problems. During the past year there has been abundant information regarding the status of abortion laws in various states. The news media has been particularly articulate. Council has already acted on this particular question. I can assure you that the decisions made were profoundly studied and weighed. In any measure, your Presiding Officer would like to have it understood crystal clear that he is opposed to the formation of "abortion mills", the off-setting of religious or moral convictions, and potential suits for malpractice if the individual doctor objects to performing or recommending a therapeutic abortion. We would like to emphasize that the physician's inherent role is that of preserving life—not destroying it. Of all disciplines, perhaps only the clergy exceeds the medical profession in religious convictions. We do not approve of the lowering

of moral codes; most of us basically have within us a little of the missionary spirit, otherwise we are hollow men, indeed.

I would like to discuss with you for a moment the relationship between our Society and VAMPAC. It is my firm conviction that this is the uppermost challenge facing us. It is appalling to realize the fewness of physicians who are interested in this and similar organizations. I sincerely believe that every officer, as example, should not only give of his time and effort, but also of his substance toward providing the election of good, sound people who will be attentive to our message. Tolerance dictates that it is equally as wrong to demand that we have complete control of our legislators, for they have obligations to other disciplines also. However, it is very reasonable to expect a listening to our voices in high places. The only way that we can assure ourselves of making an impression is by helping to elect people who will listen to us. Medicine has learned the hard way that politically we are "lost sheep" unless we fight and contribute. In this State less than one-in-nine, even in the heat of campaigning last year, contributed to VAMPAC. Look around you to see what these faithful few accomplished. A great labor leader once stated in my presence that doctors could be the most powerful political entity of all, if they expended an effort.

The statute in this State regarding the dispensing of drugs was enacted in 1908. The State of West Virginia enacted somewhat similar legislation in 1909. No other of the fifty states has such exacting and allegedly discriminatory legislation. I might add here that the West Virginia people assure us that this legislation is almost, if not completely, ignored. No other committee of your Society has worked so diligently as the one studying drug legislation during the past year. The reactions presented have run the gamut from exhilaration to despondency. We have touched on this subject previously in the monthly magazine. We do

not condone physician ownership of drug firms whereby the doctors are able to insist that drugs dispensed in their area pharmacies and hospitals shall be stocked and purchased from organizations in which they have exclusive ownership. The other side of the coin is that physicians believe that they should be policed by their own Board of Medical Examiners, and not another organization. They also question why it is illegal to charge for drugs dispensed at noontime, but perfectly legal and ethical to make a charge at two o'clock in the morning when few if any drug stores are open! Every physician who stores a quantity of injectables in his office, and uses them, of necessity is breaking the law. Only under rare circumstances is a physician permitted to store drugs of any kind in his office or home, and even then he could be subject to search and control of inventory. A reminder—when we stood virtually alone, we had a staunch friend in the drug people fighting with us against Medicare!

I will dwell only shortly on Title #19. Your County Medical Societies' presiding officers, not long ago, attended a special meeting explaining to them the implications of the proposed law, and the possibilities in which the individual doctor might be affected. It behooves all of us to help sell this program to the members of the General Assembly. It is the Doctors' Plan. It has been approved by the Department of Public Health. We are convinced that it is a good one. Every delegate in this audience should apprise himself of the tenets of this plan, and work actively towards its consumation.

There are other problems which we shall face in the deliberations during the next few days. A few of these have to do with the election of doctors to hospital boards, our insurance programs, and especially those related to retirement. Among other things, Council has asked a re-evaluation of our status regarding nurses training. The budget will be presented for your consideration.

The Presiding Officer believes that we

should consider some change in our budgetary structure. Last year, when all of the pet projects were authorized, we had an allowable cushion of \$200.00. Needless to say, this was spent within a week after we left Williamsburg. There is clamor for new services, and these necessarily require additional expenditures. One example that has caused your Presiding Officer some personal pique has been the fact that the committee appointed to study the constitution has not had the legal advice necessary to proceed because of a lack of appropriated funds. It has also been quite a blow to my personal pride to see that our contribution to the A.M.A.E.R.F. must further suffer. I do not believe that anyone in this audience looks favorably on deficit spending. We have a small surplus this year, but remember the General Assembly meets next year and it will disappear in short order unless we are most careful.

Within a couple of hours after I took office, I was hearing grumbling and mumbling concerning Blue Shield. Council should have realized that there was dissatisfaction here when the presiding officers of our local areas medical societies rejected the appointment of Blue Shield to act as our fiscal intermediary concerning Medicare. We have held conferences; we have contacted individual members; we have had discussions with members of the Board of Directors; and I have been asked innumerable times "is Blue Shield genuinely the doctor's plan any longer?" I recommend to the House of Delegates that your incoming Presiding Officer be empowered to appoint a committee to make a thorough investigation in this area. The medical profession wants, and needs, Blue Shield. Let's do something about this disaffection and promptly before it is too late.

In a talk such as this, many important things will be inadvertently ignored. I want to take this particular opportunity to thank each member of the House of Delegates, for you have made my endeavors possible.



Council, the Executive Committee, and the Office Staff of our Society all have shared in my trials and tribulations, and all have made my task much easier. I am most grateful. Your new Presiding Officer is an excellent choice. I have been closely associated with him for seven years. The Society is indeed fortunate in having elected Dr. Thomas Murrell, Jr., to be its Presiding Officer. Both he and you have my every good wish.

I'd like to make a few remarks not a part of the theme of my prepared speech. Recently the news media devoted a great deal of time to the rising costs of doctors' fees. They plugged for Medicare, and forget that we fought it bitterly, and warned of just what is happening!

Two weeks after Medicare became effective, it was announced that there would be an investigation of the rising medical costs; to that point not a cent had been paid for Medicare. In my own practice many of these accounts are months overdue. A large portion of these elderly patients we previously were treating for free, or at a very nominal charge. A "rich uncle" underwrites the bills, and why should we consider him semi-charity? Others don't. Furthermore, these people are getting bargains, for in most

instances only 80% of our charge is ever paid. The relatives and friends, including some in very high places, demand that "Mom" (who has a vote) be accorded the best. We agree with that, but, if the attending physician doesn't do exactly that, he is subject to loss of his accumulated holdings and good name in a suit for malpractice.

Ordinarily in my practice we assign one technician to each individual patient. These elderly patients require two and even three (they have to be lifted remember!), and not long ago one of our girls was even bitten. Can the government be billed directly for that bite? Remember, a human bite is about the most vicious of wounds. The government's position in this medical thing is like the girl in the minnie-skirt. She's most attractive and alluring, but she sure can run a lot faster!!

Long years ago a few lines from Byron made a lasting impression on me. I will use them now:

"Here's a smile for those who love me,  
and a tear for those who hate me."

---

5224 Powhatan Avenue  
Norfolk, Virginia 23508

### **Let's Reminisce!**

*Virginia Medical Monthly, June 1878.*

The State Medical Society of Arkansas, at its recent session ordered that no member of the Hot Springs and Garland County Medical Society be allowed to register, and that no delegate therefrom be admitted at this meeting. The disgraceful mode of advertising by some of these doctors of Hot Springs, having "drummers" on trains arriving in the city and sending placards all over the country, even caused the Mayor of the city to issue a proclamation, cautioning visitors to beware of such scamps.



# Surgery in Patients with Chronic Leukemia

## Experience with 31 Patients

ARTHUR S. BENDER, M.D.  
BYRD S. LEAVELL, M.D.  
Charlottesville, Virginia

*The incidence of complications following major surgery increases in the presence of chronic leukemia, especially chronic myelocytic leukemia.*

DECIDING whether to operate on patients with chronic leukemia is sometimes difficult because of the uncertain risk which the presence of leukemia adds to the operation. The medical literature contains little information that aids in determining the advisability of surgery in the individual leukemia patient. In an effort to learn more about this problem the records of 31 patients with leukemia who underwent a total of 38 surgical procedures have been reviewed. The complications encountered during these procedures are presented, and information known preoperatively is analyzed to determine what was helpful in predicting the likelihood of complications. In addition, the experience of others is reviewed and the special problems of splenectomy and prostatic surgery are discussed.

### Methods

University of Virginia Hospital records between 1945 and 1966 were reviewed. The cases selected for this study included all

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Reprint requests to the University of Virginia Hospital, Charlottesville, Virginia (Dr. Leavell).

patients with chronic leukemia who underwent either major or minor surgery, with the exception of biopsies; both elective and emergency surgical procedures were included. Almost all patients were seen by one of us (B.S.L.) at some time during their hospital stay.

Laboratory data were taken directly from the hospital charts. The standard methods used at the University of Virginia Hospital are the Lee-White coagulation time, the Duke or Ivy bleeding time, and the one-stage prothrombin time. Platelets are usually counted with a phase microscope, but occasionally indirect platelet counts are made on a Wright-stained blood smear. Peripheral blood counts are performed by routine hematologic methods.

### Results

Thirty-eight operations were performed on 31 patients with leukemia.

*Types of Surgery and Complications Encountered.* (See Table 1) Fifteen major and

TABLE 1.  
TYPES OF COMPLICATIONS ENCOUNTERED

	C.L.L.	C.M.L.
TOTAL NUMBER OF PATIENTS .....	19	12
TOTAL NUMBER OF OPERATIONS .....	23	15
Major Procedures .....	15	10
Postoperative Deaths .....	1	1
Postoperative Complications .....	4	8
Types of Complications*		
Hemorrhage .....	3	2
Infection .....	3	7
Thrombosis .....	0	1
Minor Procedures .....	8	5
Postoperative Deaths .....	0	0
Postoperative Complications .....	0	0

\*More than one type of complication occurred in some cases.

eight minor surgical procedures were performed on 19 patients with chronic lymphocytic leukemia (CLL). Four complications, one of which had a fatal outcome, followed the fifteen major procedures. Major surgery performed without difficulty included two cholecystectomies, two herniorrhaphies, a radical mastectomy, a radical mastoidectomy, a parotidectomy with radical neck dissection, and an above-the-knee amputation. Complications, which in some instances were multiple following a single procedure, included a urinary tract infection, acute sinusitis, and two episodes of excessive wound bleeding. They arose following one of two prostatectomies, one of three splenectomies, and a radical neck dissection. The single postoperative death occurred after a lobectomy in an elderly patient with tuberculosis.

In 12 patients with chronic myelocytic leukemia (CML), ten major and five minor surgical procedures were done. Eight complications with one death followed the ten major procedures. Only one below-the-knee amputation and one splenectomy were uncomplicated. Major difficulties followed the other two extremity amputations, three of four splenectomies, a total abdominal hysterectomy, a cholecystectomy, and a Jewett hip nailing. Postoperative complications included persistent wound infections, a subphrenic abscess, bile peritonitis, pneumonia, decubitus ulcers, unexplained fever, a cerebral vascular accident, a large hematoma and profuse epistaxis. One death occurred following a splenectomy which was performed for excessive hemolysis and thrombocytopenia.

Minor surgical procedures were done without incident on patients with either type of leukemia.

### Discussion

The most important factor related to the incidence of postoperative complications in patients with chronic leukemia appeared to be the type of leukemia present. Complica-

tions were much more frequent following major surgery in the CML group, and the postoperative morbidity in these patients was far greater than in those with CLL. These results are similar to those obtained by Gilbert and Wasserman.<sup>1</sup> Because patients with CLL get along relatively well, postponing elective surgery, either indefinitely or for purposes of therapy, would not seem to be necessary unless the leukemia is in a severe or uncontrolled exacerbation. This is particularly true when there is danger of significant progression of the surgical disease. In patients with CML the possibility of severe complications following surgery appears to be greater. This higher incidence of complications should be considered when deciding whether to perform elective major surgery in these patients.

The age of the patient, the administration of previous antileukemic therapy and the preoperative white blood count levels did not significantly affect the occurrence of postoperative complications. Normal preoperative platelet counts, bleeding, clotting and prothrombin times were no guarantee against postoperative hemorrhagic complications because some patients with normal studies had excessive bleeding. Nevertheless patients may have been excluded from surgery, and complications avoided because of grossly abnormal studies.

*Splenectomy.* The question of splenectomy arises frequently in patients with leukemia. The indications for this operation have recently been reviewed by Sandusky et al.,<sup>2</sup> and by Schultz and Denny.<sup>3</sup> In the present series splenectomy was performed on three patients with CLL and four patients with CML. Only one of the three patients with CLL who underwent splenectomy had a postoperative complication, and this was minor. Three of four patients with CML had complications, all of which were severe. One patient with CLL lived for five years, and another is still living one and one-half years after splenectomy. The average interval between splenectomy and death



in 11 patients with CLL reported by Schultz and Denny was 17.5 months.<sup>3</sup> Two of their patients and six of thirteen patients reported by Strumia et al.,<sup>4</sup> survived more than three years following splenectomy. All four patients with CML in this series who underwent splenectomy died within 18 months following the procedure as did the five patients in Strumia's series.<sup>4</sup> In two patients with CML reported by Fisher et al.,<sup>5</sup> one died five days postoperatively, and the other survived only two months after splenectomy.

**Prostatectomy.** Many male patients with chronic forms of leukemia are in the age group where prostatic hypertrophy and carcinoma of the prostate occur. In addition, leukemic cells, particularly lymphocytic, sometimes cause symptoms by infiltrating the prostate gland. Several authors<sup>6-10</sup> have reported a total of fifteen patients with CLL who underwent either transurethral, suprapubic, or retropubic prostatectomies. Ten of these cases did well postoperatively. Two had minor complications, and one had moderately severe hemorrhage. Two patients died in the postoperative period, one with a pulmonary infarct, and the other with fever and bleeding. Green and Heck<sup>6</sup> reported five patients with CML who underwent transurethral resections of the prostate for benign hypertrophy. One patient had excessive bleeding after surgery, and the other four did well. In the present series two patients, both with CLL, underwent transurethral resections, one for benign hypertrophy, and the other for adenocarcinoma. The latter patient had excessive postoperative bleeding and a urinary tract infection but recovered satisfactorily. The other patient's postoperative course was uncomplicated. Radiation has been suggested as a treatment in patients whose prostatic biopsy shows leukemic infiltrate.<sup>10</sup> Because of the slow response to radiation and the likelihood of benign hypertrophy being present in addition to leukemic infiltrate, surgery would seem to be the treatment of

choice, particularly in CLL where postoperative complications are less severe.

## Summary

1. The results of 38 surgical operations performed on 31 patients with chronic leukemia were reviewed and analyzed to determine factors which influenced the incidence of postoperative complications. The most significant factor was the type of leukemia.

2. Fifteen major operations were performed on 14 patients with chronic lymphocytic leukemia, and 11 of these procedures were uncomplicated. Three minor complications occurred, and one patient died in the postoperative period.

3. Ten major operations were done on nine patients with chronic myelocytic leukemia. Although only one patient died postoperatively, eight procedures were associated with complications, most of which were severe.

4. Minor surgical procedures were performed on patients with both types of leukemia without incident.

5. Specific problems relating to splenectomy and prostatic surgery are discussed.

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University of Virginia  
School of Medicine  
Charlottesville, Virginia

### Let's Reminisce!

*Advertising which appeared in the 1879 Transactions of The Medical Society of Virginia.*

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# Acute Ventilatory Management of Respiratory Tract Damage in Burns

KENNETH W. TRAVIS, M.D.  
DOUGLAS K. ARMBRISTER, M.D.  
TERRING W. HEIRONIMUS, III, M.D.  
Charlottesville, Virginia

*A patient with evidence of severe respiratory tract burns is reported. Controlled ventilation with high tidal volume appears to have been an important factor in his successful management.*

**T**HIS REPORT describes the successful management of a burn associated respiratory tract injury in which high tidal volume, controlled ventilation proved effective.

## Case Report

While playing with matches a 5-year-old boy ignited the rear seat of the family automobile. The doors and windows of the car were closed. Extracted from the burning vehicle by a passing neighbor, he was taken to his family physician who arranged prompt transfer by ambulance 40 miles to the University Hospital. En route the child became hoarse.

Past medical history included a single episode of asthma at 10 months of age.

From the Department of Anesthesiology and Surgery, University of Virginia Medical Center.

Acknowledgment: Dr. T. E. Keats, Professor and Chairman, Department of Radiology, reviewed the films and Dr. D. W. Eastwood, Professor and Chairman, Department of Anesthesiology, rendered incisive criticism.

Dr. Travis is now located at 25 George Road, Winchester, Massachusetts.

Physical examination upon arrival at the emergency room three hours post-burn revealed a 20-kg. well-developed, well-nourished, hoarse boy with mixed second and third degree burns of the lips, perioral and nasal areas, chin, forehead, upper extremities and abdomen, totaling 14 per cent of body surface. The conjunctiva were injected and the left cornea appeared cloudy. Pulse was 120; respirations were 24/min. with progressive inspiratory stridor. He was not cyanotic. Auscultation of the chest revealed prolongation of exhalation and end-expiratory wheezing in all lung fields. Inspiratory rhonchi were heard in the left lower chest anteriorly. He was restless.

In the emergency room he received oxygen by a mask held just short of facial contact. An intravenous line was established. The patient received Decadron\* and tetanus toxoid. Neosporin ophthalmic ointment was applied. Because of progressive inspiratory difficulty and restlessness, nasotracheal intubation was performed. At the time of laryngoscopy, erythema and carbonaceous depositions were seen on the false cords. Then, under halothane-oxygen anesthesia, a tracheostomy was performed through the second tracheal ring. Erythema and carbon particles also involved the trachea. Throughout anesthesia, mild wheezing persisted. Immediately post-cannulation the left chest lagged with inspiration because of endobronchial placement of a tracheostomy tube which was too long. Equal expansion returned after partial withdrawal of the

\* (Dexamethasone 21 phosphate. Merck Sharp and Dohme).

tracheostomy tube. A Foley catheter was inserted, and the trunk and extremity burns were thoroughly cleansed and dressed with Furacin. The head was shaved. Facial burns were cleansed and left uncovered.

Laboratory values on admission included a hematocrit of 38 per cent, WBC of 14,300 mmm, urine sp. gr. of 1.038, Na 136 mEq/L, K 4.2 mEq/L, Cl 104 mEq/L and CO<sub>2</sub> 26 mEq/L. Arterial blood gases drawn while the patient breathed 2 per cent halothane in oxygen revealed a pO<sub>2</sub> of 250

DAY	1		2
	7 P. M.	11 P. M.	3 A. M.
pO <sub>2</sub> mmHg	250	270	170
pCO <sub>2</sub> mmHg	66	47	35
pH	7.44	7.48	7.52
%IO <sub>2</sub>	(1) 98	(2) 48	(3) 42

mHg, pCO<sub>2</sub> of 66, and a pH of 7.44.\*\* (Fig. 1) Chest film immediately after tracheostomy revealed a density at the left

which was still somewhat long, lay just above the carina. (Fig. 2)

- Fig. 1. Arterial and Inhaled Gas Concentrations
- (1) Under halothane 2%—Oxygen 98% anesthesia 30 minutes post-tracheostomy; 20 minutes post-reestablishment of bilateral chest expansion.
  - (2) In oxygen tent 4 hours post-reestablishment of bilateral chest expansion.
  - (3) After 60 minutes on Emerson, tidal volume 350 cc, 20 breadths/min. (% IO<sub>2</sub> = oxygen as per cent of inspired gas)

Because of increasing expiratory wheezing the patient was transferred directly to protective isolation in the Intensive Care Unit. He was placed in an oxygen tent which provided relatively high humidity and an inspired oxygen per cent (% IO<sub>2</sub>) of 48 per cent as determined by a Beckman O<sub>2</sub> analyzer. He received intravenous aminophylline, penicillin and morphine, and intramuscular Kanamycin. In the tent, measured arterial blood gases were pO<sub>2</sub>, 270 mHg, pCO<sub>2</sub> 47, and a pH of 7.48. With expiration, his legs and feet rose from the bed. He intermittently retched and vomited partly digested food. His vital capacity measured 250 cc,\*\*\* (20% of predicted normal).<sup>13</sup> Tenaceous carbon containing secretions became somewhat more liquid after the intratracheal administration of 2 cc of 10 per cent Mucomyst,\*\*\* but forced



Fig. 2. A. Day 1. Density at left heart border represents atelectasis contributed to or caused by endobronchial intubation at time of tracheostomy. Note proximity of tracheostomy tube to the carina.  
B. Day 2. Density at left heart border clearing.  
C. Day 3. Graph correlates vital capacity measurements, physical findings and the amount of time the patient spent off the ventilator. Artificial ventilation was employed for three days.

heart border. The tip of the tracheal canula,

\*\*Values obtained with Clark O<sub>2</sub> and Severinghaus pCO<sub>2</sub> electrodes; Beckman pH electrode and Beckman recorder.

\*\*\*Measured with Wright respirometer. (Means the maximum amount he could exhale after a maximal inhalation. He understood commands and cooperated. This is highest value of several repeated determinations.)



exhalation persisted. Intermittent positive pressure breathing (IPPB) with Bennett and Bird machines and Isuprel nebulization did not correct the ventilatory pattern. Morphine and curare were used to synchronize the patient's breathing with an Emerson volume controlled, positive pressure breathing apparatus at an initial tidal volume of 200 cc (1.5 times predicted tidal volume),<sup>13</sup> rate of 20 per minute and peak airway pressure of 20 cm of water. With no improvement, after 30 minutes the tidal volume was increased to 350 cc (2.5 times the predicted tidal volume). After an hour, wheezing disappeared and the patient had a normal exhalation pattern. Important additional measures were hourly maximal chest hyperinflations using an anesthesia bag and oxygen, hourly turning, sterile gloved airway suctioning as needed, and chest physiotherapy as recommended by Bendixen, et al.<sup>2</sup>

Each time the patient was removed from controlled ventilation, prolonged exhalation, wheezing and rhonchi recurred. Manual hyperinflation of the chest and high tidal volume ventilation (2.5 times predicted tidal volume) reversed these findings.

By the afternoon of the second day the patient could be removed from the ventilator for five minutes without recurrent respiratory signs, during which time he breathed 40 per cent oxygen via a heated Puritan nebulizer. The chest film showed clearing (Fig. 2) and his vital capacity increased. (Fig. 3)

On the third day his vital capacity rose abruptly (Fig. 3) and his breath sounds, both on and off the ventilator, were vesicular.

Afebrile, with vesicular breath sounds, a vital capacity of 750 cc (60% of predicted), unremarkable sections, and clear chest film (Fig. 2), on the morning of the fourth burn day the patient was removed from the ventilator. His tracheotomy tube was removed later that day, and he was moved from a humidified atmosphere. That

evening rhonchi and expiratory wheezing reappeared and he coughed ineffectively. A tracheostomy tube was reinserted and the inspired air was humidified by a heated Puritan nebulizer. With hourly hyperinflation, vigorous chest physiotherapy and suctioning, vesicular breath sounds returned.

On the fifth day the patient breathed easily around the corked tracheostomy tube while a heated nebulizer provided additional moisture via face tent. Despite vigorous coughing he needed suctioning to clear moderately thick, whitish secretions. Sputum cultures remained negative. Dressings were changed on burned areas which were healing satisfactorily. The tracheal canula was removed permanently on the sixth burn

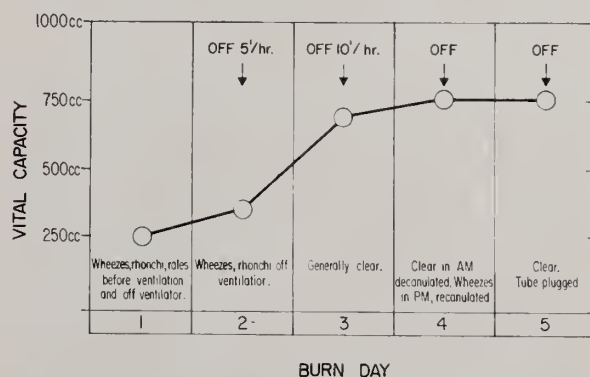


Fig. 3. Graph correlates vital capacity measurements, physical findings and the amount of time the patient spent off the ventilator. Artificial ventilation was employed for three days.

day. Thereafter, occasional rhonchi cleared after IPPB by mask, deep breathing, and coughing. All antibiotics were discontinued on the tenth post-burn day, and half per cent silver nitrate dressings were applied to the trunk and extremities. Still mildly hoarse three weeks post-burn, he underwent uneventful nitrous oxide-halothane anesthesia for debridement and grafting. No pulmonary complications developed. At discharge, one month post-burn, he had slight hoarseness. Examination two weeks later revealed no respiratory signs and excellent healing of graft and donor sites.

## Discussion

*Clinical Recognition:* A history of exposure to flame or irritant chemicals within an

\*\*\* Acetylcysteine, Mead Johnson.

enclosed space forecasts respiratory difficulty.<sup>1,14-17</sup> Ominous signs and symptoms include deep facial burns, labored exhalation, inspiratory stridor, cough, hoarseness and sore throat, hypopharyngeal, epiglottic and laryngeal erythema and debris; rales, restlessness, irrational behavior or stupor; and cyanosis—which may be hidden by carboxyhemoglobin. Nausea and vomiting occur frequently.<sup>17</sup>

*X-ray:* The early chest film may be negative. Later, patchy or linear migratory pulmonary densities may appear, indicating plugged bronchioles and alveoli. Air trapping and compensatory emphysema is evident. Diaphragmatic elevation, variable hilar displacement and gastric dilatation may be seen.<sup>17,18</sup>

*Pathology:* Autopsied cases have shown inflammation, ulceration or denudation of the tracheobronchial mucosa, obstruction of secondary and tertiary bronchioles by congestion edema and debris, plugged alveoli, variable pulmonary edema and infection.<sup>10,14,17</sup>

*Pathophysiology:* Edema and obstruction of the upper and lower airways cause progressive alveolar hypoventilation and set the stage for infection. Acute asphyxia may result from upper airway obstruction. Involvement of the lower airway and alveoli causes carbon dioxide retention with air trapping and increased physiologic dead space, arterial hypoxemia due to perfusion of non-ventilated alveoli, and reduced gas diffusion secondary to pulmonary interstitial edema. Vital capacity falls. Hemolysis, carboxyhemoglobin and methemoglobin reduce the oxygen carrying capacity of the blood. Respiratory depression secondary to narcotic administration may accentuate the above.<sup>16</sup>

*Etiology:* Noxious gases and chemical irritants of smoke are etiologic suspects,<sup>16</sup> and the oxides of nitrogen have been particularly implicated.<sup>7,14</sup> Cyanide, phosgene, hydrogen sulphide, aldehydes, and ketones are emanated upon combustion of common

materials and may cause damage. Except in the case of steam inhalation,<sup>2</sup> high temperature of inspired air does not effect damage on the distal tracheobronchial tree.<sup>11</sup>

*Treatment:* In the treatment of burn-associated respiratory tract damage, the maintenance of an unobstructed, well-humidified, minimally contaminated tracheobronchial tree, with or without intubation or tracheostomy, is paramount. Supplemental oxygen is required.<sup>16</sup> The importance of vigorous, effective chest physiotherapy in maintaining alveolar ventilation cannot be overemphasized. Hourly maximal chest hyperinflation, accompanied by turning, percussion, vibration and postural drainage several times daily when possible, mitigate progressive atelectasis and preserve compliance and vital capacity.<sup>6,14</sup> Steroids have been advocated in the treatment of chemical pneumonitis<sup>8</sup> and may help the pathologically similar pulmonary burn. Bronchodilators are of inconstant benefit.<sup>16</sup> Antibiotics are indicated.<sup>4</sup>

Artificial high tidal volume ventilation retards the development of atelectasis,<sup>3</sup> and its use has been suggested in burns.<sup>16</sup> Connell<sup>4</sup> describes the use of the Bennett Respirometer in pulmonary burns. In this case the consistency with which high tidal volume ventilation reversed, and largely prevented wheezing and rales, was impressive. Each time during the first 48 hours that artificial ventilation was discontinued, expiratory ventilatory effort increased, accompanied by wheezes and rales. High tidal volume ventilation (i.e., 1.5 to 2.5 times predicted tidal volume) reversed these findings. The mechanism of this apparent effect is uncertain. It seems doubtful that endobronchial edema would be reversed by positive pressure breathing. It may be that a sustained end tidal positive pressure remained in the airway which served to maintain bronchiolar caliber, thus facilitating exhalation although the pressure gauge on the Emerson ventilator fell to zero at the end of each observed exhalation. Reflex bronchodilatation after



deep inspiration has been suggested by the observations of Nadel and Tierney,<sup>12</sup> and may have occurred in this case.

### Summary

(1) A case of respiratory tract damage associated with facial burns is presented.

(2) High tidal volume controlled ventilation played a central role in its successful management.

(3) This experience suggests that such ventilatory management in conjuncture with established methods of chest physiotherapy may prove effective in similar cases.

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# *Clinicopathological Conference . . .*

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## **Febrile Illness and Severe Acidosis**

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### **CLINICAL DISCUSSANT:**

Jack Gwaltney, M.D.

This conference was held September 23, 1967.

UVH # 57-75-27

Autopsy No. 11297

### **Clinical History**

This 25-year-old Negro farm worker was apparently in good health until six days before admission. At that time he developed headache, sore throat, non-productive cough, generalized malaise, chills and feverishness. He was treated by his personal physician with penicillin and aspirin without benefit, and two days before admission he was seen in the Emergency Room at the University Hospital.

In the Emergency Room he had a temperature of 103° rectally, and was noted to have slow mentation, but was described by the referring physician as having always been mentally retarded. There were no localizing findings on physical examination. Laboratory studies then included WBC 9,000, Hct. 48%, 4+ protein in an otherwise normal urinalysis, blood sugar 150 mg%, urea 42 mg%, normal skull and chest x-rays, and spinal fluid containing 3 cells, 39 mg% protein and 92 mg% sugar. Cultures were taken, and he was sent home on rest, aspirin and fluids.

He returned two days later unimproved, rales were noted at the lung bases, and he was admitted. There was no prior history of rash, insect bites, or significant infectious exposure. His maternal grandparents had diabetes.

*Physician examination* again showed a well-developed and nourished, toxic young man, T 105°. There were bilateral subconjunctival hemorrhages. BP 130/90, P 140, respirations 24/minute. The chest was clear except for rare rales in both lung bases. There was no rash or adenopathy; there was a grade 1/6, short, apical systolic murmur; there were no other abnormalities.

*Laboratory studies* showed again a normal urinalysis except for 2+ protein and granular casts; Hct. 46%, WBC 8600 (39 bands, 44 segs, 6 lymphs, 11 monocytes), later 15,400 (25 bands, 63 segs, 7 lymphs, 5 monos). Blood sugars 150 and 169 mg%. Chest x-ray showed a small patch of pneumonitis in the left lower lobe. Serum electrolytes: Na 138-125, K 4.3, Cl 93, CO<sub>2</sub> 23mEq/L. Serum bilirubin, total protein, sickle cell prep normal, EKG: sinus tachycardia. Stool, urine, CSF and throat cultures and febrile agglutinins were negative or normal. Sputum gram stain showed "great numbers of gram-positive diplococci" and grew on culture a mixture of *Aerobacter* and *D. Pneumonia*.

*Hospital course:* Ample hydration and large amounts of intravenous penicillin were given promptly. Temperature and pulse rate remained high. Adynamic ileus and respiratory distress were present. Arterial gases on the day after admission were pO<sub>2</sub> 75.5 mmHg, pCO<sub>2</sub> 28.7 mmHg, pH 7.27. Oxygen was given. There was an episode of respiratory arrest on the afternoon of 4/25, from which he was resuscitated by means of endotracheal intubation. Tracheostomy was done, and mechanical ventilatory assistance was provided. He remained unresponsive, and despite 40% oxygen and high machine pressures the arterial gases were pO<sub>2</sub> 69, pCO<sub>2</sub> 89, pH 6.9. Shortly thereafter he became hypotensive and expired.

## Clinical Discussion

*Dr. Jack Gwaltney:* Diagnosis is a problem-solving process, and problem-solving requires the gathering of information, the sorting and weighing of this information, and the use of logical thinking to draw conclusions from these "refined" facts. In real life the amount of information gathered for the diagnosis for a particular case depends upon the skill, time, and energy of the examiner. In a CPC the amount of information available is set by the protocol.

On this protocol, which is relatively short, I have calculated there are a total of some 60 pieces of information which might contribute towards the recognition of the correct diagnosis. Obviously, I am not going to itemize each one of these, although I initially did; and as an exercise in diagnosis, this can be helpful when faced with a problem that appears confusing.

The patient was 25 years old, male, and a Negro. He had a fatal illness which was of short duration, approximately six days. These five facts are not very specific, but already three of these—the fact that this was a fatal illness with a short course in a young adult male—have set the odds that the diagnosis will fall in a particular group of diseases. This of course does not get you very far; but, for example, we don't worry about ruptured ectopic pregnancy. Also, we can rule out long-term conditions such as various malignancies, leukemias, and that type of thing.

Next we learn that the patient complained of headache, sore throat, non-productive cough, generalized malaise, chills, and fever. These findings are consistent with an acute infectious process, probably of the respiratory tract, and possibly viral despite the report of chills, which may be inaccurate. In such conditions there may be a few objective findings, and diagnosis is frequently made by exclusion. Medical students at another school have composed and recorded a song entitled, "It Must Be a Virus, the Findings Are Obscure". This

unfortunately is true, since clinical virology laboratories are not widely available.

The patient was treated with penicillin and aspirin without benefit. He then came to the Emergency Room, and more information was obtained. He was febrile, temperature of 103° rectally, had slow mentation, and also the history was obtained that the patient had mental retardation. Dr. Leavell, can you recall your thoughts on this man, when he was later admitted to the hospital?

*Dr. Leavell:* The impressive thing about seeing this man in the hospital was how sick, how toxic he appeared to be. His pulse was very fast—140/minute—and also respirations were rapid with practically no localized findings. I felt that this was a viremia, probably with myocarditis.

*Dr. Gwaltney:* Thank you. This sums up very well what I was going to emphasize—the paucity of positive findings in a setting of generalized toxicity and fever. He did have an unexplained elevation of blood and cerebral spinal fluid glucose concentrations. He was treated with fluids and aspirin, and sent home. We have now gone through about half of my list of facts, and I ask the question: can we suspect an acute and potentially fatal illness? I think the answer is no. We could, with justification, diagnose an acute viral or mycoplasmal respiratory illness. These would include infection due to adenovirus, Cocksackie A-21, influenza or *Mycoplasma pneumoniae*. The rhinoviruses, respiratory syncytial virus, and parainfluenza viruses do not usually produce high fever in adults. These conditions would not explain the findings of the elevated blood and spinal glucose level unless the patient was diabetic. Of these, only influenza is commonly a fatal illness in adults. Usually such fatal outcome is due to secondary bacterial invasion, but occasionally the influenzal pneumonia alone is responsible. Rarely—in less than 1%—mycoplasmal pneumonia may be fatal. In any event,



at this point the patient had no pneumonia so we are unable to pursue that line.

The patient's condition did not improve, he returned, and was admitted. As was pointed out, tachycardia and fever were the only possible clues to the gravity of his condition at this time. There was some "shift to the left" in granulocytic cells on blood smear and a confirmation of the slightly elevated blood sugar. Serum sodium concentration was initially normal and fell, and serum chloride and  $\text{CO}_2$  were diminished. The sputum culture revealed pneumococci, but since these organisms can normally be found in the pharynx, we cannot use this information to place the infection in the lungs. The gram stain is suggestive that he had bacterial pneumonia.

Dr. Keats, what does the chest x-ray show?

*Dr. Keats:* The small area of faint, poorly demarcated density in the lower lung field is not enough to make any specific diagnostic suggestion. The fact that it was not seen three days previously may be of significance in terms of a recent, rapidly moving process. The heart is not enlarged, and the rest of the examination is negative.

*Dr. Gwaltney:* Thank you. The most valuable information in assessing the etiology of bacterial pneumonia is obtained from blood cultures. If bacteria can be grown from the blood in a patient with pneumonia, you can be reasonably sure that these organisms are also in the lungs. Even without this evidence, I suspect this patient did have an early bacterial pneumonia. (I am advised that the blood cultures were taken and were sterile.) At this time he was given prompt and appropriate treatment for pneumococcal pneumonia in the form of ample penicillin, and yet his condition worsened and he died. We then face the question: was this unsuccessful treatment of pneumococcal pneumonia, or did the patient have another unsuspected illness?

Treatment failure does occur with pneu-

mococcal pneumonia, especially in patients in poor prognostic categories—that is, patients with advancing age, alcoholics, those with severe concomitant illness, those with bacteremia, leukopenia or multilobar involvement, and those with disease due to type I or III pneumococci. Also, Negroes have a higher case fatality rate. This patient was Negro; his initial leucocyte response was not good—8600. On these two counts you might say his prognosis was worse than the average patient. On the other hand, the overall mortality of pneumococcal pneumonia in young patients who are treated early is said to be as low as 0.5%. He received penicillin initially from his private physician, and he received it promptly on arriving in this hospital, so that I doubt the possibility of treatment failure.

Are there more facts not explained by the diagnosis of pneumococcal pneumonia which might be clues to the presence of other conditions? There are six more pieces of information given before it is learned that the patient suffered a respiratory arrest, which I judge is when he actually died from his basic disease. Included in these facts is what I consider to be the most important piece of information on the protocol. The finding is an arterial pH of 7.27 in the face of a normal blood  $\text{PO}_2$  and a slightly depressed  $\text{PCO}_2$ . This represents a dangerous and potentially fatal stage of metabolic acidosis.

The approach to the differential diagnosis of metabolic acidosis rests on recognizing the presence or absence of an "anion gap". When this is present, as in this case, it limits the diagnostic possibilities. In this case the sum of the chloride and bicarbonate concentrations was 116 mEq/l, and if this is subtracted from the serum sodium of 138 mEq/l, there is an excess of unmeasured anions of 22 mEq/l. An "anion gap" is due to the accumulation of some unmeasured anion, such as ketones in diabetic acidosis, phosphates and other retained an-



ions in renal failure, lactate in lactic acidosis, or exogenous toxic products. Can we make a cause for any of these conditions in this patient? I think we can.

I am going to suggest that the patient died from aspirin intoxication for the following reasons. He was mentally retarded, and he had been given aspirin on two recent occasions, although the amount taken was unknown. Slight elevations of blood glucose concentrations as found here occur with salicylate intoxication, as well as respiratory distress without localized respiratory disease. His "dyspnea" without more obvious respiratory tract disease could have been the hyperpnea seen in salicylate intoxication. Salicylism causes mucosal hemorrhages, such as the subconjunctival hemorrhages which were noted. Finally, he died with a respiratory arrest, which is frequently the case of death in salicylate poisoning.

Therefore, I postulate that he had a viral respiratory illness, followed by a bacterial pneumonia, which was still early on the day of admission. During his initial illness, when he was not improving as quickly as he wanted, his poor mental status led him to take excessive amounts of aspirin, amounting to a fatal overdose. Single doses as low as 30-100 tablets (0.3 gm. each) have caused death in adults.

Of the alternative causes of this type of acidosis, diabetes and renal failure were excluded. Other kinds of poisoning, especially the ingestion of ethylene glycol antifreeze, are possibilities, but no oxalate crystals were seen in the urine. Lactic acidosis is another possibility, and one that cannot be excluded. Against this is the fact that he did not present with either severe hypoxemia or circulatory failure.

At autopsy there probably will be pneumonic consolidation in both lungs, but I do not believe this was present at the time of his initial respiratory arrest because of the minimal physical and x-ray findings and normal arterial oxygen tension shortly prior to that event. After respiratory arrest has

occurred and artificial ventilation is used, a variety of pulmonary problems may develop. I have asked Dr. Heironimus to comment on this aspect of the problem.

*Dr. Heironimus:* I agree with Dr. Gwaltney that the initial blood gas series indicated a remarkably good oxygen tension on room air—75 mmHg—and severe acidosis from the very low pH and moderately reduced  $p\text{CO}_2$ . This does not suggest that there was anything wrong with the lungs then.

One aspect of this problem to be considered is the fact that although the arterial oxygen tension as measured in the laboratory was not bad, the availability of oxygen to his tissues in the presence of severe acidosis and fever may not have been good. Temperature elevation of the degree seen in this man would shift the oxyhemoglobin curve to the right, reducing the relative saturation to about 75%. If to this we add the effect of a reduced cardiac output from some associated cardiac problem, which would leave the venous oxygen content lower than normal, this man's tissues could have been fairly hyoxic.

After the respiratory arrest occurred and the mechanical ventilation was attempted, there did develop in this man evidence of impaired ventilation. We cannot say whether this was due to a defective respirator or whether he was now developing severe pulmonary consolidation, which kept the machine from being effective. His arterial carbon dioxide tension rose to 89 mmHg, which is more than twice normal, and the  $p\text{O}_2$  was relatively low under administration of 40% oxygen. Thus, a respiratory component was added to his previous, metabolic acidosis, dropping the arterial pH to a physiologically intolerable low of 6.9. If he aspirated at the time of the arrest and tracheostomy, intense pneumonia could have developed. He was being ventilated with a so-called "pressure-controlled" respirator; under these circumstances a "volume-controlled" respirator might have been more successful in overcoming the block to gas exchange,

which appeared to develop during the last hours of this man's life.

*Dr. Arthur Bender:* Can you explain the high fever on the basis of aspirin intoxication?

*Dr. Gwaltney:* Significant fever occurs with aspirin poisoning alone; however this problem seems to have begun with a non-specific viral infection. The degree of acidosis initially and the resulting respiratory arrest were too much to explain on the basis of viral infection alone. Of the various possible causes of metabolic acidosis, the best explanation seems to be aspirin. As Dr.

## Pathological Discussion

*Dr. David E. Smith:* The most striking lesions recognized at autopsy were petechiae on the epicardium and pleura. Almost equally as impressive was the soft and flabby consistency of the heart and slight congestive streaking of the myocardium. Microscopically, these gross changes were explained by a striking interstitial myocarditis shown in figure 1. There was an infiltration of histiocytes between muscle fibers and sometimes about structures that appeared to have been capillaries, but other times more randomly distributed in the in-



Fig. 1. Myocardium with a nodule of interstitial myocarditis. The position and configuration suggests that the infiltrate of mononuclear cells has arisen within a small capillary although no remnants of that structure can be seen. (H&E stain, 320X).

Heironimus noted, later there did develop evidence from the blood gases of respiratory difficulty; but at that point the man had already died of his primary disease.

### DR. GWALTNEY'S DIAGNOSES:

1. *Viral respiratory tract infection.*
2. *Terminal bacterial pneumonia, organism not identified.*
3. *Severe metabolic acidosis with an "anion gap", probably due to accidental overdose of aspirin.*

terstitium. In figure 2 there is a small artery that was markedly involved, even to the addition to clumps of fibrin on the endothelial surface. These illustrations are only a sample of the lesions which were present throughout the myocardium in a most impressive amount and manner. They establish a diagnosis of myocarditis and immediately lead to the interpretation that many of the phenomena of congestion in the other viscera and the clinical episode of pulmonary edema were related to heart failure.



In the lungs, there was a diffuse congestion and increase in substance, as well as a marked congestion of the mucosa of the trachea. Microscopically (Fig. 3), this is

terstitial pneumonia at the time of death. There was no evidence of a true alveolar exudate, such as would have been present in a bacterial pneumonia. A few of the alveoli



Fig. 2. A small artery in the myocardium with extensive cellular infiltrates of the walls and masses of fibrin attached to the endothelium. (H&E stain, 160X).

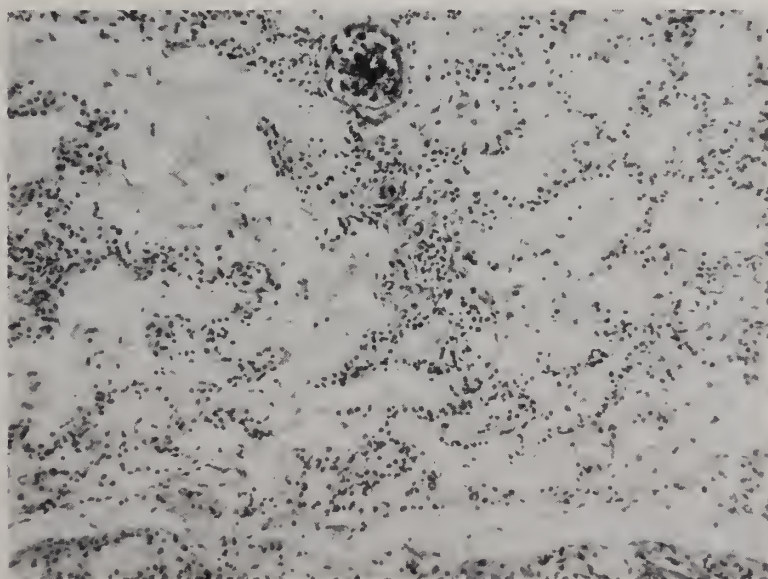


Fig. 3. Interstitial pneumonia and edema. Cellular infiltrate along the capillaries of the alveolar walls is the most prominent and distinctive feature. (H&E stain, 160X).

represented by an infiltration of lymphocytes and histiocytes into the alveolar walls, accompanied by edema fluid in the alveoli and congestion of the capillaries. The lungs were fairly uniformly involved by this in-

contained fibrinous precipitates, but these were not the membranes of an established reaction of the lung to the respirator; rather, they indicated a diffuse primary disease consisting of inflammation of the alveolar



walls, of which the capillaries are the most prominent of involved structures.

The kidneys had markedly swollen cortices and considerable congestion in the medulla. The most distinct microscopic le-

position to affect materially the nephron in its functions of concentration and salt balance. In the liver, there was a rather marked infiltration of histiocytes and lymphocytes in the portal areas, far more than would be

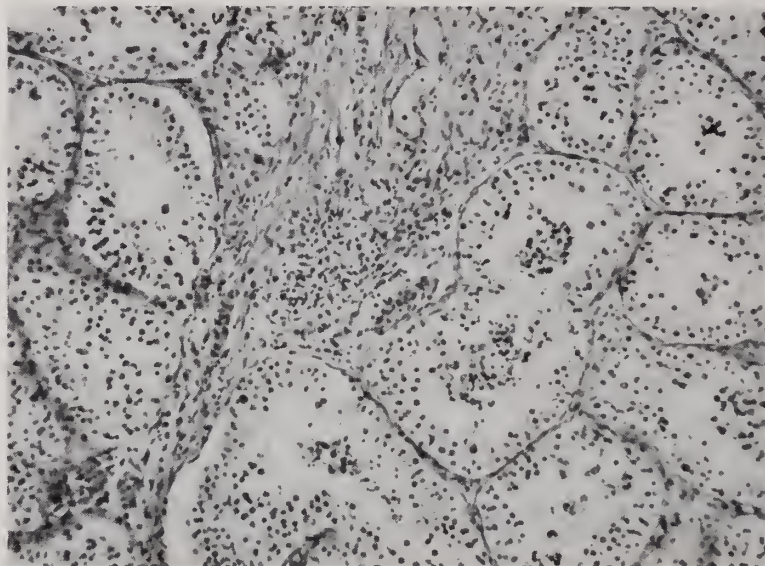


Fig. 4. Testis with a nodule of cellular infiltrate in an interstitial septum. (H&E stain, 160X).



Fig. 5. Nodular interstitial myositis in skeletal muscle. Its position suggests the lesion arises as inflammation of capillaries. (H&E stain, 160X).

sions were in the medulla near the loops of Henle and the collecting tubules, where there was a nodular cellular infiltrate in the interstitium. This was unaccompanied by the necrotic tubular changes of lower nephron nephrosis, but was obviously in a

expected in a young person, but there was no primary degeneration of hepatic cells. In the testes (Fig. 4), there were nodules of interstitial inflammation similar character. Figure 5 shows a nodular interstitial myositis in skeletal muscle. The skin, as

shown in Fig. 6, had a very distinct vasculitis in the epidermis that probably should have been recognized as a rash had the patient not been so heavily pigmented.

In the brain, there were rare glial nodules, but they were so scanty they could not be considered to be of specific significance.

These histological changes are essentially those of a widespread vasculitis and interstitial inflammation which is concentrated in the myocardium and lungs, leading to

We did make toxicological analyses to rule out alcohol or barbiturates as toxic agents. There was no evidence of any of the toxins that leave rather specific signs. I do not know what his salicylate level was, but I feel quite secure in stating that the pathologic lesions I have shown you are far beyond the capillary ruptures, ecchymoses and petechiae of even the most severe salicylate poisoning.

Rocky Mountain Spotted Fever, despite

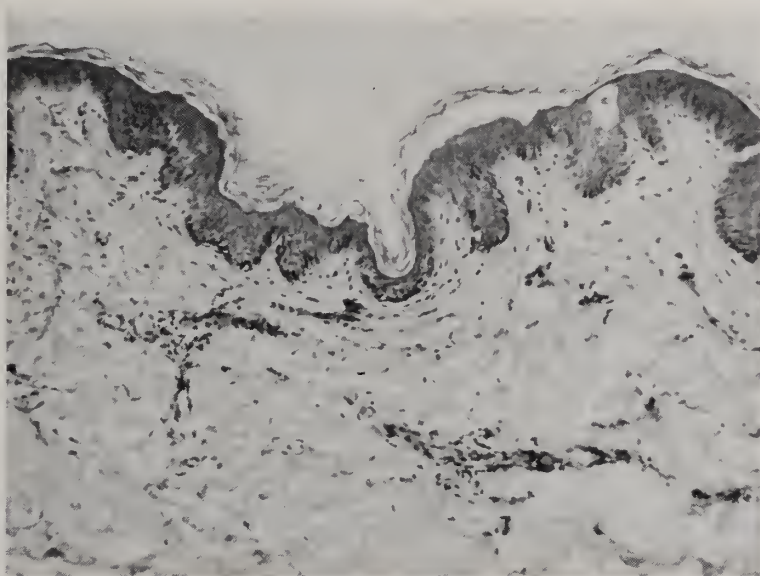


Fig. 6. Skin with distinct vasculitis in the upper corium. This would probably have represented a rash clinically if it were not for the heavy pigmentation of this individual. (H&E stain, 160X).

death by impairment of the functions of those organs. The fact that similar inflammation is present in many other organs, including, most interestingly, the skin, muscle, and testes, brings to mind the types and distributions of lesions that are seen in Rickettsial disease.

The etiology of the disease in this case is not proved. It conceivably could have been viral. It would have been very helpful to have had information concerning the Weil-Felix reactions in addition to the routine febrile agglutinations that were performed and were negative. It would have, of course, been conclusive to have isolated either a virus or rickettsia by appropriate cultures or inoculations, but we do not have such information available.

its name suggesting a Western distribution in the United States, actually has as its territory of maximum incidence the Piedmont region of Virginia and North Carolina. It should never be forgotten in our clinical diagnosis of acute fever of unknown origin. The fever, rapid respiration, leukopenia, hypochloremia, and a number of other clinical features of this case are quite common in that disease. Most of the fatal cases have a much more striking central nervous system involvement than I have been able to demonstrate to you; however, variation in the intensity of involvement of various organs, even with a single strain of rickettsia, is quite the rule.

This case can be summarized as one of a diffuse vasculitis and interstitial inflam-



mation with cardiac and respiratory failures due to an interstitial myocarditis and pneumonia. I feel that it is most likely due to a rickettsial disease, but that it could be due to some other agent, such as a virus. I am most suspicious that the offending agent was actually *Rickettsia-rickettsii*.

#### ANATOMICAL DIAGNOSES:

*Myocarditis, vasculitis, and interstitial inflammation, probably of rickettsial or viral etiology, involving the heart, skeletal muscle, lungs, liver, skin, testes and brain.*

#### ADDENDUM:

Through the courtesy of Miss F. Marilyn

Bozeman of the Department of Rickettsial Diseases, Walter Reed Army Institute of Research, Dr. B. C. Sturgill has been able to make immunofluorescent studies for rickettsia in material from this case. The material has been preserved for a considerable time and no positive results were obtained.

From the standpoint of clinical findings, it is interesting but not too unusual for the myocarditis to have failed to produce more abnormalities in the EKG or chest x-ray. Also, as Dr. Gwaltney pointed out, the presence of bacterial organisms in a sputum culture did not mean that a bacterial pneumonia was presented.

### A New Drug Abuse

A relatively new form of drug abuse—injecting stimulants—is a growing health problem, says an article in the July 31st Journal of the American Medical Association.

Instead of taking “pep pills,” an increasing number of habitual users are injecting amphetamines, the drugs from which the pills are made. Injected amphetamines have “an addictive and relapse potential comparable to that of opiates or cocaine.”

Amphetamine users inject increasingly larger and more frequent doses. As a result, they sometimes stay awake for days at a time; they don’t eat; they become gradually more paranoid and disorganized, suffer a variety of illusions and hallucinations, and then lapse into a long, deep sleep.

When they awake, they are famished and lethargic. To regain alertness, they often inject more amphetamines, thus starting another “run” with the drugs.

The majority of amphetamine users questioned were “hippies,” middle-class neurotic drug users, and former heroin addicts. In some cases, their first injection “was a desire to improve the quality of the amphetamine experience.” In other instances, it followed a period of heroin use.

Tolerance of the drug builds rapidly, and

as the dose is increased, the toxic symptoms increase also. The sensations of extreme physical and mental power become marred by confusing, frightening illusions and ideas.

Under the influence of amphetamines, those who enjoyed working with machines lost the ability to perform complex acts. Their actions become disorganized and repetitive.

Because amphetamines completely suppress appetite, weight losses of 20 to 30 pounds during a “run” are common. Abscesses, nonhealing ulcers, and brittle fingernails occur, probably as a result of malnutrition.

Because amphetamines are easily obtained, users probably won’t commit as many crimes against property as do opiate users. Crimes of violence, however, may become more frequent.

“From descriptions of the intensity of the paranoid state and the hyperactivity associated with amphetamine use, crimes of violence by amphetamine users appear likely in the future.”

The authors are John C. Kramer, M.D.; Vitezslav S. Fishman, Ph.D., and Don C. Littlefield, M.D., all of the California Rehabilitation Center, Corona.



WILLIAM REGELSON, M.D.

Edited by—

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## **Surgical Adjuvant Chemotherapy—Additional Hope for Cure?**

What should one do when residual cancer is left behind at the time of surgery? What are the disadvantages and advantages in treating cancer by chemotherapy in the absence of measurable disease? What is the balance of drug induced morbidity and mortality weighed against prolongation of survival or the hope of cure? What is the cost to the patient in time and money of cancer chemotherapy at a period in his life when he is symptom free and able to participate in normal activity? These questions that govern our decision as to the management of asymptomatic patients faced with residual disease is based on fundamental scientific questions that have been presented to laboratory models.

Does the effectiveness of cancer chemotherapy benefit from a minimal number of tumor cells? Does an enhanced nutritional and immunologic status of the patient insure a better chemotherapeutic index for the drugs used? What are the hazards to the patient, in the absence of a curative dose of chemotherapy, as they relate to decreasing his resistance to the spread of tumor? These questions remain unanswered for many tumors but are approaching resolution in regard to acute leukemia, lymphomas and bowel cancer.

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Sponsored by the Professional Education Committee, Virginia Division, American Cancer Society.

In animal tumor systems there is evidence that the fewer the number of tumor cells present, the greater the opportunity for producing a cure with standard chemotherapy. This is based on destruction of log orders of tumor cells, so that the fewer the tumor cells present the greater the chance that repeated treatment with one or several drugs will result in continued kill of a dwindling population till the last cell is destroyed. Appropriate relation of drug dose to timing of its administration is absolutely essential as it is also known that stress, or steroid administration can increase the "take" of metastatic disease. Whether the laboratory models used can speak for data in man can only be answered by empiricism. With acute lymphocytic leukemia, using massive combinations of chemotherapy in patients already in remission, there are now some long-term survivals and possible cures. This is also true for the responsive lymphomas where radiation followed by chemotherapy may produce equally prolonged remission or theoretical cure.

Over the past 10 years, adjuvant programs of chemotherapy using thiotepea as a single course at the time of surgery have been disappointing. However, Mackman and Curreri<sup>1</sup> recently reported the results of a "second-look procedure" evaluating patients who had grossly "curative" resections for colon cancer but who had mesenteric lymph node metastasis or serosal involvement at the time of resection. Postoperatively, these patients were given 5-fluorouracil for four or more courses prior to their "second-look" exploration one year postoperatively. Twenty patients were examined, seventeen of

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1. Mackman, S. and Curreri, A. R.: Re-Operation in Colon Carcinoma Following 5-FU Administration. Presented at the American Society of Clinical Oncology meeting in Chicago, Illinois, April 12, 1967.

whom had no gross tumor at re-exploration at the end of this one year period. An additional eleven patients who had direct extension to adjacent organs or structures and who were treated with only palliative resection were also examined surgically following four to ten courses of 5-fluorouracil. Seven of these patients were found to be free of tumor and three had tumor which was removed for possible "cure".

This experience has recently been supported by a report by Rousselot et al.<sup>2</sup> who calculated the projected five year survival of patients following intraluminal 5-fluorouracil administration combined with systemic intravenous 5-fluorouracil in the immediate postoperative period. This was a comparative study between nitrogen mustard and 5-fluorouracil. Adjuvant nitrogen mustard had no effect on statistics regarding recurrence rate. However, significant improvement appeared with 5-fluorouracil in those patients who had lymphatic metastasis (stage 3). At five years the projected survival rates were 65% for the 5-fluorouracil treated patients compared to 32% in a nationwide retrospective control series and 26% in the St. Vincent's Hospital experience prior to this pilot program. There was no apparent improvement in survival rates in stage 1 and 2 colon cancer cases (no lymph node metastases) when compared to nationwide averages. This reflects the overall effectiveness of surgery in early colon cancer.

These studies, despite the lack of concomitant controls, do point out the possible usefulness of adjuvant drug in the treatment of colon carcinoma, particularly when known tumor is left behind. In view of the 20-30% objective response rate (greater than 50% regression of measurable disease)

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2. Rousselot, L. M., Cole, D. R., Grossi, C. E., Alexander, J. C. and Gonzalez, E. M.: A Continuation of the Effectiveness of Intraluminal Chemotherapy Adjuvant to Surgery for Colo-rectal Cancer, 5 Year Report. Presented at the meeting of the Society for Surgery of the Alimentary Tract in Atlantic City, New Jersey, June 17-18, 1967.

for 5-FU with cancer of the stomach, pancreas, biliary tract, liver, and breast, its place in similar adjuvant programs using these tumors should be investigated. In our mind, what is important is that repeated courses of chemotherapy be given to eradicate the last remaining tumor cell. One course of drug is probably not enough. That repeated courses are probably necessary is indicated by the finding that a single course of a related compound (Fluorodeoxyuridine) did not alter three year survival statistics in an ongoing Veterans Administration study of bowel cancer. The dose of 5-fluorouracil used should be a standard one and recent evidence of intestinal absorption makes oral administration of this drug a consideration since this would be more readily manageable.

The dosage to be used is arbitrary, but Curreri speaks of a minimum of four courses administering 12-15 mg/kg per day over four days, followed by 1/2 dose on alternate days until toxicity is observed. One should also ask the question whether toxicity is really necessary in these patients, since recent data support the fact that it is not necessary to see clinical toxicity to obtain significant tumor regression with 5-FU. A possible greater clinical usefulness for 5-FU as adjuvant therapy is the observation that it is effective by mouth as well as by topical application. Absorption via the portal circulation has an obvious advantage in regard to metastatic liver disease from bowel cancer.

5-FU will be the drug of choice in any adjuvant program for colorectal cancer, particularly in the nutritionally strong patient since here it is well tolerated. However, data in regard to alkylating agents suggest that they are also useful in bowel and breast cancer, and perhaps administration of these agents in repeated fashion will prove of use in patients when known disease is left behind. Previous failure of adjuvant chemotherapy programs using thiopeta perhaps relates to the fact that this agent may be less active, but I think it more appro-

priate to the stress that only a single course was given.

These concepts are also relevant to other tumors and other drugs. In view of the high order of responsiveness of embryonic tumors and testicular cancer to actinomycin D, there is certainly a place for its adjuvant use with these tumors. This is already being attempted in a study of Wilms' tumor. The time has also come for other tumors, particularly the acute lymphocytic leukemias in children and lymphomas in both children and adults, wherein one might be willing to accept minimal increase in mortality for the possibility of cure.

The concept that the chance of achieving cure of cancer is greater when fewer cells are left behind should lead to further exploration of chemotherapy in the absence of obvious disease after surgical resection.

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The concepts and these preliminary data obtained in pilot studies with 5-FU that are described by Dr. Regelson are quite encouraging. It would appear that this general approach to colorectal cancer certainly merits a more detailed examination. The intraluminal approach described by Roussetot and his colleagues exploits the concept of attacking the circulating cancer cells in the portal circulation during the period of operative manipulation of the tumor, but it could also be stated that a more significant feature of their plan might be the systemic

administration of drug both during and immediately after operation. The approach of Curreri's group has the theoretical drawback of avoiding this apparently important interval when operative manipulation has produced showers of cells in the circulation, but has the appeal of repetitive courses of agent when the target of the therapy is small and success more likely. One might well wonder then whether a combination of these methods of administering adjuvant therapy will prove to be the preferable approach. At any rate, a study to determine an answer to the simple question "Does adjuvant 5-FU improve survival rates for colorectal cancer?" might profitably employ this combination.

In line with the concept expressed above, a combined intraoperative and postoperative adjuvant program for colorectal cancer is certainly worthy of serious consideration. The protocol would require randomization in view of the fact that we honestly do not have an answer at this time regarding the role of adjuvant 5-FU. If and when a definite increase in cure rate can be demonstrated as a result of this approach, another question to be answered would be the relative roles of intraluminal, early and later postoperative chemotherapy. Until the value of adjunct chemo therapy for colorectal cancer is more firmly established, however, there appears to be little basis for urging its widespread use.

THE EDITORS.



# Diagnostic Laboratory Medicine . . . .

H. P. DALTON, Ph.D.  
M. J. ALLISON, Ph.D.

## Chemotherapeutic Susceptibility of Common Bacterial Species

At the Medical College of Virginia it has been found that the laboratory recording of the percentage of a bacterial species susceptible to a particular antibiotic is a valuable guide to the attending physician when he is forced to empirically choose an antimicrobial agent. It has also been found that for a variety of reasons, such as susceptibility changes by the microorganisms or the marketing of new agents by the pharmaceutical industry, the pattern of bacterial susceptibility must be constantly reviewed. Primarily for these latter reasons we have

disc sensitivity studies using Baltimore Biological Laboratories' discs on blood agar plates which had been uniformly spread with the organisms. The bacterial species tested were all freshly isolated and in pure culture.

The table demonstrates that there are available today a number of antimicrobial agents which are active against gram-positive organisms. Penicillin is seen to be still very effective against *beta Streptococcus* and, though not shown on the table itself, it is also highly active against *Diplococcus pneumoniae*. The effectiveness of penicillin against the *Staphylococcus* has decreased but

TABLE I  
ANTIBIOTIC SENSITIVITIES OF 1,420 BACTERIAL ISOLATIONS AT M. C. V. HOSPITAL, 1966

ORGANISM	No. of Strains	Penicillin (10)	Erythromycin (2)	Methicillin (5)	Ampicillin (10)	Cephalothin (30)	Streptomycin (10)	Tetracycline (30)	Chloromycetin (30)	Neomycin (30)	Coly-Mycin (10)	Furazolidin (100)	Nalidixic Acid (5)	Polymyxin B (50)
<i>Staphylococcus aureus</i>	190	61	91	93	73	100	61	70	96	0	1	3	0	1
<i>Staphylococcus epidermidis</i> . . . . .	166	78	84	86	85	96	69	66	83	0	2	12	1	4
<i>Alpha streptococcus</i> . .	59	98	49	39	98	98	35	80	47	0	2	49	5	2
<i>Beta streptococcus</i> . . .	70	100	79	77	100	95	57	87	78	0	1	19	4	2
<i>Gamma streptococcus</i> .	39	89	44	10	97	92	10	36	44	0	5	51	13	3
<i>Aerobacter</i> . . . . .	326	0	0	0	23	54	30	60	39	49	88	40	40	47
<i>Escherichia</i> . . . . .	250	0	0	0	63	60	24	64	34	40	93	58	55	57
<i>Pseudomonas</i> . . . . .	148	0	0	0	1	1	35	5	36	53	99	1	3	44
<i>Proteus mirabilis</i> . . . .	114	89	0	0	87	83	34	8	46	57	4	45	45	0
<i>Proteus rettgeri</i> . . . .	55	29	0	0	57	63	26	6	34	34	6	46	34	9
<i>Proteus morganii</i> . . . .	23	13	0	0	35	22	30	48	30	35	9	56	39	9

Sensitivities expressed in percentage of sensitive organisms.  
Values in ( ) represent concentration of drug used in disc sensitivity test.

recorded the activity of the commonly used antimicrobial drugs against the most commonly isolated organisms for the year 1966. Table I lists the sensitivity pattern of 11 common bacterial species for 13 antimicrobial agents. The data were obtained from

newer compounds such as cephalothin have compensated for the increase in penicillin resistant *Staphylococcus* strains. The antimicrobial activity pattern for the gram-negative organisms is not as encouraging as that seen for the gram-positive group.

The table shows that there are few agents that inactivate 90% of the gram-negative strains tested and more commonly the percentage of sensitive strains falls in a range lower than 70%. In the gram-negative group there is also wide variation in the percentage of sensitive strains within the same genus. For example, it would be hard to predict the activity of penicillin or ampicillin against a *Proteus* organism without knowledge of the species.

While the table does demonstrate that some chemotherapeutic drugs, such as Colymycin are effective against most *Pseudomonas* and *Escherichia* strains, it perhaps more clearly demonstrates the aid that sensitivity testing can be in selecting the most effective antimicrobial agent for gram-negative infections.

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### Share Your Medical Journals

The doctors of the U.S.A. are being asked to send their medical journals—after they have read them—to colleagues overseas (Asia, Latin America, and Africa) who wish to have access to current medical literature but, either because of current regulations or actual cost involved, cannot themselves subscribe to medical periodicals. We can supply you with the name, address, and medical specialty of doctors in these areas who would be happy to receive these much wanted journals, (*particularly specialty journals*), which you will mail direct to your overseas colleague.

This is a direct "Doctor-to-Doctor" program which is being sponsored by the American Medical Association with the collaboration of The World Medical Association to help alleviate the lack of current medical publications and to further inter-

national good will. Your cooperation in this program will be greatly appreciated and your contact with these colleagues in other countries, we can assure you, will prove very gratifying. If you wish to participate in this program, send your name, address, and titles of journals you will contribute to Doctor-to-Doctor Program, Ada Chree Reid, M.D., Director, % The World Medical Association, Inc., 10 Columbus Circle, New York, New York 10019.

Postage will be paid by the donor of the periodical. International surface postage rates for journals ("printed matter") as of May 1, 1967, are as follows: 6¢ for first 2 oz.; 4¢ for each additional 2 oz. or fraction. Journals may be mailed in a large manila envelope or may be rolled as a cylinder in wrapping paper, tying same with string and affixing label.

MACK I. SHANHOLTZ, M.D.  
*State Health Commissioner of Virginia*

## **Redirection of Medical Disaster Program**

A 30-day supply of critical medical items for disaster care is being placed in the nation's hospitals. These items, known officially as the Hospital Reserve Disaster Inventory (HRDI), assure maximum flexibility in making a health resource available at points of greatest need as quickly as possible.

Hospital Reserve Disaster Inventory units will provide supplemental inventory for a community hospital's existing general medical/surgical beds. This would expand a community hospital's capability to provide quality casualty care in natural disasters, major accidents or enemy attack without reliance upon an outside supply source.

Hospital Reserve Disaster Inventories are packaged in 50, 100 and 200 bed modules. The type of package or combination of modules that a community hospital would be qualified to receive would be dependent upon their present general medical/surgical bed capacity. A participating hospital would be permitted to receive a module or combination of modules less than their present general medical/surgical bed capacity, but would not be permitted to receive a module or combination of modules in excess of this bed capacity.

A major advantage of this new localized medical stockpiling is that it provides a rotation system for supplies that might deteriorate in storage. The hospital will utilize these emergency supplies in its daily operations and will continue to purchase such supplies on its regular schedule, thus maintaining its normal inventory and the emergency inventory at the same time. By rotating these supplies, the hospital will be assured that it can operate for 30 days without resupply during an emergency

when supply lines are likely to be disrupted.

Initially, hospitals participating in this new program are selected by the Public Health Service in accordance with criteria and standards established for emergency planning and location and are contacted by the State Health Department's Disaster Medical Service Section to discuss their participating in the program. The State Health Department, which has primary responsibility for the Disaster Medical Services Program, is kept fully informed of all hospitals which agree to participate in the HRDI Program. It is anticipated that eventually every hospital in the country will participate in the HRDI Program. A Public Health Service contract is negotiated with each participating hospital.

## **Packaged Disaster Hospital**

At the same time, the Packaged Disaster Hospital (PDH) Program is being redirected closer to community hospitals. Major changes in the program are:

Packaged Disaster Hospitals, on a selective basis and based upon location criteria established by the Public Health Service, will become affiliated with community hospitals. Community hospitals agreeing to affiliate with a PDH will be requested to (a) rotate pharmaceuticals contained in a refurbished PDH with their regular stocks (same procedure as HRDI program), and (b) provide the necessary professional staff for proper utilization of the PDH in time of a disaster.

Eventually every PDH will be refurbished and brought up to the new 10,000 series standard which is valued at over \$40,000.

There are two purposes for affiliating



Packaged Disaster Hospitals with community hospitals:

- (1) to provide immediate supplies of medical equipment and materials which would greatly expand a community hospital's capacity in time of emergency, or
- (2) to provide sufficient supplies and equipment, cots and bedding and pharmaceuticals to establish a complete 200 bed general medical/surgical hospital as a subsidiary facility in a separate building.

The basic contract covering the major components of a PDH will continue to be made with the State Health Department. The Packaged Disaster Hospital will remain under the control of the State as a resource for the State and its political sub-divisions. The State will be requested to continue the present program of providing proper storage, maintenance of adequate surveillance of the PDH and all of the services it has been providing since the pre-positioning program was implemented. The eventual goal of the Public Health Service is to have every PDH in the State affiliated with a community hospital.

REPORT OF BUREAU OF COMMUNICABLE DISEASE CONTROL

	Oct. 1967	Oct. 1966	Jan.- Oct. 1967	Jan.- Oct. 1966
Brucellosis -----	0	7	35	22
Diphtheria -----	0	0	0	0
Hepatitis -----	50	46	636	473
Meningitis (Aseptic) -----	5	4	23	29
Meningococcal Infections ---	1	9	39	68
Poliomyelitis -----	0	0	0	0
Rocky Mt. Spotted Fever-----	1	1	29	32
Rubella -----	19	11	662	926
Rubeola -----	11	23	2203	2203
Streptococcal Sore Throat --	793	934	11781	10469
(including Scarlet Fever)				
Tularemia -----	0	0	0	2
Typhoid Fever -----	0	3	4	13
Rabies (in animals) -----	7	14	181	227
Venereal Diseases				
Syphilis -----	134	211	1699	1713
Gonorrhea -----	966	839	8135	7151
Other -----	3	4	17	27

ARTHUR CENTOR, Ph.D.

## From Shigaon to Insanity to Psychosis

It sometimes seems as if the psychodiagnostician has always used the term *psychosis* to designate the most severe category of mental illness. Actually it is only 50 years since there has been a general acceptance of a classificatory system using psychosis instead of insanity. The use of insanity in nosology continued in one form or another until very recently. Its only remaining use is in legal terminology where it represents the adjudication of incompetence due to a mental disease or defect, following a trial by jury in a civil or criminal court.

The first recorded word used to designate mental illness was in Hebrew—*shigaon*. It is interesting that this reference (Deuter. XXVIII: 28-34) is not quoted as being the oldest reference and yet it was reputedly written about 3400 years ago. Not only is this passage a first in the use of a term to designate mental illness but it is also a historical first in proposing the psychodynamic etiology of mental illness. One should note that the passage starts with the threat to punish the people of Israel with *shigaon* which is translated as madness, or in modern days psychosis, if they did not obey the Lord and his Commandments. But the passage goes on in elaborating upon this threat and it soon becomes clear that this psychosis will develop because of a series of traumatic events; this psychosis will ensue from environmental disasters and as a consequence of these. The passage reads:

The Lord will smite thee with madness, and with blindness, and with confusion of heart; And thou shalt grope about at

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Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

noonday, as the blind gropeth about in the darkness, and thou shalt not prosper in thy ways; and thou shalt be only oppressed and robbed all the days, but with no one to help. A wife wilt thou betroth, and another man shall lie with her; a house wilt thou build, and thou shalt not dwell therein; a vineyard wilt thou plan, and thou shalt not redeem it. Thy ox shall be slain before thy eyes, and thou shalt not eat thereof; thy ass shall be violently taken away from before thy face, and shall not be brought back to thee; thy sheep shall be given unto thy enemies, without any one to help thee. Thy sons and daughters shall be given unto another people, and thy eyes shall look on, and fail with longing for them all the day long; but without any power in thy hand. The fruit of thy soil, and all thy exertion, shall a nation which thou knowest not eat up; and thou shalt only be oppressed and crushed all the days. And thou shalt become mad from the sight of thy eyes which thou wilt see.

The later portions of the Bible and Greek literature have many references to psychosis.

It is curious that in early English jurisprudence the term *non compos mentis* was used and not *insanity*. This is all the more surprising because the Romans did use the word *insania*. The solution may perhaps be found in an observation made by Zilboorg (6, p. 66) in demonstrating that the early Romans recognized legal irresponsibility of the insane:

He (Cicero) distinguishes *insania* from *furor*; *insania* is an absence of calm and poise, but *furor* denotes a complete breakdown of intellectual capacity, which makes the afflicted individual legally irresponsible. That is why, says Cicero, the

twelve Tables specified not *si insanus* but *si furiosus essit*. This is one of the earliest references to the problem of legal responsibility of the mentally ill.

The twelve Tables date from about the 5th Century B. C. This reference would indicate that the Romans used different terms to designate different states of psychosis and the term they used to denote a complete breakdown of intellectual capacity was not *insania*. It is, therefore, reasonable to assume that the early English jurists, who were well acquainted with Cicero, would not use an English word such as insane to describe a condition of legal or civil irresponsibility; what they did come up with was *non compos mentis*.

Perhaps the earliest use of the term in English law is found in Dee Prerogativa Regis passed in 1342 which completely established the King's jurisdiction over idiots and lunatics. Lloyd (3, p. 484) cited Chapter 22:

. . . also he shall provide, when anyone who before his time had his memory and intellect, shall become non compos mentis, just as some are per lucida intervalla, that their lands and tenements shall be safely kept without waste or destruction and that they and their household shall live and be maintained competently with the profits of the same; and the residue, besides their support, shall be kept to their use, to be delivered unto them when they come to right mind.

This right of the King or government to have jurisdiction over idiots and lunatics persists to this day in both Great Britain and the United States. The term *non compos mentis* having been used in statute law acquired great importance as a legal term. The reference in the statute to *per lucida intervalla*, or enjoying lucid intervals, was in later usage replaced by *lunatic*; since a lunatic was thought of as one who became psychotic because of the power of the moon, it was believed that at other times, he could

become lucid as this power diminished. In later usage, the lunatic was one who had lucid intervals and was considered insane but had a special label.

When the statutes of Virginia of November, 1769, established the first institution for the mentally ill at Williamsburg, Virginia, now Eastern State Hospital, the title for this Chapter 28 read: "An act to make provision for the support and maintenance of idiots, lunatics and other persons of unsound minds."

Later use of the term lunatic in the 1860's finds it being synonymous with insane person or persons of unsound mind or non compos mentis.

The vicissitudes of the term insanity are difficult to trace but we do find Sir Thomas De Littleton, who wrote about the year 1466, quoted by Lloyd (3, p. 512) as referring to "a man which is of non sane memory, that is to say in Latine, qui non est compos mentis." It would appear that this use of non sane memory as an equivalent for non compos mentis later was condensed to non sane and this became insane. This is not to say that from this date the jurists began using the term insanity instead of non compos mentis; actually the change was quite gradual with many reversals.

Although the use of the word insanity in ancient and recent law has had many changes in its usage and meaning, the use of the term insanity by those not in the legal branch of behavioral science but in the therapeutic and diagnostic branch of behavioral science has had some interesting developments also.

There does not seem to have been any objection to the use of the word "insanity" by psychiatrists until about 1906.

What is today the American Psychiatric Association began in 1844 as the "Association of Medical Superintendents of American Institutions for the Insane" and its membership was restricted to superintendents of institutions. In 1893 the name was changed to the "American Medico Psycho-



logical Association". It wasn't until 1921 that the title became the present "American Psychiatric Association".

At the 1906 meeting of the Association, J. T. Searcy presented a paper which seems to date the use of the term psychosis as opposed to insanity by the medical profession. He said:

We are beginning to use the word *psychoses* to designate any exhibition of mental abnormality of any grade.

A number of terms are in popular and legal use, such as "insanity", "lunacy", "craziness", "non-compos-mentis", "idiocy", "imbecility", and the like, to designate abnormal mental conditions. There is much confusion in the use of them. There are many kinds of exhibitions of mental abnormality and every grade of each kind. The term psychosis broadly includes all grades. Milder grades appear every where, (sic) which do not come within the cognizance of the law, still, as pathologic and psychiatric *symptoms*, are matters of concern and attention, particularly by medical men. All abnormalities are noted promptly in the observations of others; only the graver grades attract legal attention. (5, p. 234)

There is every reason to believe that Adolf Meyer was one of the most, if not the most, influential psychiatrists who moved from the use of the word insanity towards the use of psychosis. In 1906, Meyer submitted a classificatory system using only the word psychoses (2, pp. 153-168). Although the use of insanity does creep into this article, it is quite clear that there is a strong move to the use of *psychoses* instead of *insanity*. By 1910 he is able to say:

Unfortunately, the role of the physician is at this point involved in an issue which I think should not be looked on as a medical question. If the physician has to say "yes" or "no" to the questions: "Do you consider the patient 'responsible'?" and "Do you consider the patient 'insane'?"

he becomes part of the jury or in the absence of a jury expresses himself in a judiciary capacity. Neither responsibility nor insanity is a medically useful or even an admissible term. The physician must make it clear that there is a mental disorder that had or had not a bearing on the act and offer, as far as possible, the evidence by which he can prove it. But the rest is a judicial interpretation gratuitously offered by a physician at the risk of being turned down by a jury or a judge who knows more of the law than the doctor and, at the same time, appears to decide a medical question for him." (2, p. 223)

It was not until 1917 that patients in mental hospitals were called other than insane. A special census report in 1923 stated:

In 1917, through the joint efforts of the National Committee for Mental Hygiene and the American Psychiatric Association, a standard classification of mental disease was adopted and introduced into most of the State hospitals of the country. The new classification was adopted by the Surgeon General of the Army in the same year and was used by psychiatrists in all of the Army camps and hospitals. Later, it was adopted by the United States Public Health Service and United States Census Bureau and by nearly all of the public and private hospitals for mental disease that had not introduced it in 1917.

This standard classification divides mental disorders into 22 principal groups, 20 of which are more or less clearly defined groups of psychoses, while one group is provided for undiagnosed psychoses and another for patients without psychosis. (4, p. 40)

This report is quite consistent in using psychosis and yet we find Table 61—"Paupers Reported as Insane in Almshouses, January 1, 1923." (4, p. 90)

The use of the word insanity was so entrenched that even as late as 1941 the index

of the Journal of the American Medical Association was using the category of Insanity.

Note that in 1940 under the published physical standards for selective service there was provision for rejection for mental and nervous disorders. Class IV included any serious mental or neurologic disorder such as: A—insanity; it then went on to spell out the diagnostic criteria and listed under insanity—1. Dementia praecox, 2. manic depressive insanity, 3. Paresis. (1, p. 1558)

It is readily apparent, therefore, that there was no immediate acceptance of the use of psychosis to replace insanity in the medical profession. The progress was quite gradual and it only seems at this date as if there was universal acceptance of the term psychosis and rejection of the term insanity as descriptive of severe mental illness. At this time, however, there does not seem to be any overlap; the legal profession uses insanity and the healing professions use psychosis.

In Virginia, it was not until 1950 that the

statutes were changed so that commitment to a state hospital was no longer for *insanity* but for mental illness.

Today, the word *insanity* has some ancient ring to it; but it wasn't so long ago and well within the living memory of many now practicing that *insanity* was used as the accepted diagnostic label for severe mental illness.

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### Clinical Center Studies of Patients with Metastatic Breast Cancer, Metastatic Uterine Carcinoma, and Suspected or Proven Hypogonadism

The cooperation of physicians is requested in the referral of patients for studies being conducted by the Endocrinology Branch of the National Cancer Institute at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Three categories of patients are needed:

1. Post-menopausal women with metastatic breast cancer who do not have significant hepatic metastases and have not undergone extensive therapy.
2. Women with metastatic uterine carcinoma suitable for therapy with progestational agents.

3. Men and women with suspected or proven hypogonadism.

Suitable patients will be admitted to the Clinical Center for study and the initiation of appropriate therapy. Upon completion of their studies, patients will be returned to the care of the referring physician who will receive a summary of findings.

Physicians interested in having their patients considered for admission to these studies may write or telephone: Mortimer B. Lipsett, M.D., or Griff T. Ross, M.D., Clinical Center, Room 12-N-204, National Institutes of Health, Bethesda, Maryland 20014. Telephone: 656-4000, Ext. 62021 (Area Code 301)

# *The Medical Society of Virginia . . .*

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## **Minutes of Council**

A meeting of the Council of The Medical Society of Virginia was held on Thursday, October 19, at the Marriott Twin Bridges Motor Hotel.

*Members Present:* Dr. K. K. Wallace, Dr. Thomas W. Murrell, Jr., Dr. Alexander McCausland, Dr. Hugh G. Stokes, Dr. Mack I. Shanholtz, Dr. Harry J. Warthen, Dr. W. Callier Salley, Dr. F. Ashton Carmines, Dr. William S. Hotchkiss, Dr. William R. Hill, Dr. William Grossmann, Dr. W. Nash Thompson, Dr. Harry B. Stone, Jr., Dr. Dennis P. McCarty, Dr. W. D. Liddle, Dr. W. W. Walton and Dr. Carl P. Parker, Jr.

*Others Present:* Dr. F. H. McGovern, Dr. James M. Moss, Dr. Thomas S. Edwards, Dr. W. Linwood Ball, Dr. Allen Barker, Dr. Russell M. Cox and Mr. Gerald Blanchard.

## **Abortions**

Dr. Hotchkiss stated that after careful consideration of the statement of policy adopted by Council on September 9, he believed it quite important to seek a change in the wording of the three exceptions to the Society's opposition to induced abortion. It was his opinion that the word "may" should be struck and the words "is likely" substituted in each instance. He further believed that the whole section probably should be rewritten to some extent.

It was agreed that since the House of Delegates would receive a report from Council later in the day, it would seem best to refer the suggestions of Dr. Hotchkiss to a Reference Committee. *A motion to that effect was seconded and adopted.*

## **1967-68 Budget**

Dr. Walter Porter, Chairman of the Finance Committee, briefly reviewed the Society's financial situation and presented a proposed budget for fiscal 1967-68. Notice was taken of the steady increase of Committee expenses and it was suggested that such expenses be paid on the basis of 10¢ a mile for automobile travel and receipted bills for hotel lodging. The cost of all meals would also be covered. It was agreed that this would be a good rule to follow and Dr. Murrell indicated that such procedure would be followed in the future.

The thought was expressed that Committee mem-

bers might wish to investigate the possibility of using their expenses as tax deductions—rather than seeking reimbursement from the Society. There was good reason to believe that this might well work to the advantage of the individual and save the Society a considerable amount of money in the process.

As a further move to reduce Committee expenses as much as possible, Dr. Murrell indicated that he would require presidential approval of requests for legal assistance. He stated that he would undoubtedly call on the Executive Committee for advice in this regard.

The VaMPAC operation was discussed at some length and Dr. Moss stated that a real effort was being made to cut corners whenever and wherever possible and build up the educational fund. The Executive Secretary was then directed to place the words "educational fund" after the word "VaMPAC" when listed in the budget.

The Society's scholarship contributions were considered at length and it was decided to initiate a new awards procedure. Applicants would be interviewed by the Executive Secretary and the \$2,000 contribution to each school would be divided into four scholarships if at all possible. Scholarships would be held to a maximum of \$500.00 but exceptions would be permitted when the need was obvious. Any student of the University of Virginia School of Medicine or the Medical College of Virginia would be eligible—regardless of his home state.

Brought out was the fact that the Executive Secretary would most certainly need advice and assistance in arranging the various interviews and preparing recommendations. This was recognized by everyone, and it was agreed that the Executive Secretary should seek all possible guidance and assistance in this regard.

*Dr. Stokes then moved that the proposed budget be approved. The motion was seconded and adopted.* The budget in detail can be found in the Minutes of the Second Session of the House of Delegates.

*Dr. Salley urged that the words "administered by The Medical Society of Virginia" be placed in parenthesis following the scholarship items in the budget. A motion to this effect was seconded and adopted.*

## **Invitational Conference**

The Governor's Committee on Nursing has ex-



tended the Society an invitation to serve as one of the sponsors of an Invitational Conference on "Future Patterns of Health Care". Also receiving invitations are the Virginia Hospital Association and Virginia Nurses Association. Plans for the Conference actually hinge on a grant requested from the Old Dominion Foundation.

*A motion by Dr. Hill that the Society accept the invitation to serve as a sponsor of the Conference was seconded and adopted.*

### Hospital Privileges for Osteopaths

Consideration was given a request that The Medical Society of Virginia establish a policy which would assist community hospitals in meeting this particular problem. Several applications by osteopaths for hospital privileges have been filed in recent months—the two most recent being in Northern Virginia. Dr. Murrell indicated that he had discussed the matter with several prominent members of the osteopathic group and they seemed to be in agreement that no change in the present policy be sought at this time. Ensuing discussion brought out that the answer to the problem does not lie in local society membership since this requirement for hospital staff privileges is no longer acceptable in the courts. Dr. Cox mentioned the fact that all osteopaths licensed in Virginia in recent years are licensed to practice both medicine and osteopathy.

A motion by Dr. Liddle that The Medical Society of Virginia oppose hospital privileges for osteopaths was seconded.

A substitute motion was then introduced calling for a study of the overall problem. The motion was seconded. During the discussion which followed it was brought out that a study of educational levels had been conducted within the last 18 months. Mentioned also was the fact that AMA considers the matter a decision for the various localities.

A substitute motion by Dr. Parker that each component society base its decision on the individuals concerned was seconded. The motion also called for The Medical Society of Virginia to continue to look at the problem in all its ramifications. Debate was then closed and Dr. Parker's substitute motion defeated.

*Council then returned to the first substitute motion which called for a study of the problem. It was made clear that any studies conducted should have the cooperation and assistance of the Virginia Society of Osteopathy. The substitute motion was then adopted.*

### Medical College of Virginia Petition

Council had been requested to make known to the U. S. Public Health Service its thoughts on a petition from the Medical College of Virginia entitled "Respiratory Intensive Care, Training and Demonstration Unit". The petition was for the purpose of seeking supplemental funds with which to continue a project previously approved and in operation. Dr. Wallace stated that he was highly pleased that the Society had been consulted concerning the petition and expressed the feeling that approval would be justified.

*A motion that approval of the Medical College of Virginia petition be recommended was seconded and adopted.*

### Health Survey

Dr. Murrell discussed the proposed study of The Medical Society of Virginia of patient care in the State of Virginia. He called attention to the role of other state societies in regional medical programs (Heart, Cancer, Stroke)—particularly the North Carolina State Medical Association. It was his opinion that The Medical Society of Virginia is in a position to apply for regional medical program funds should it desire.

He went on to say that the proposal to evaluate the physical status of patients known to have congestive heart failure stemmed from a desire to select the best possible starting point. Congestive heart failure seems to be one of the most common conditions lending themselves to a study of this nature. A study of this kind will do much to help the profession evaluate just how well it is doing certain things. Dr. Murrell also pointed out that the Department of Health, Education and Welfare is now aware that the Society is anxious to accept its responsibility where health care in Virginia is concerned.

A motion was then introduced which would have Council approve plans to apply for a survey grant. The motion was seconded.

Dr. McCausland stated that the record should show that the proposed survey had been favorably reported out of the Committee on Medical Education. It was agreed that this would be done.

Some opposition to a survey was noted and Dr. Murrell stated in reply that The Medical Society of Virginia was not turning its back on the principles it has advocated over the years, and will not be put in a position of "going down the line" with the Department of Health, Education and Welfare.

*The motion for approval of the survey grant application was then adopted.*

### **VaMPAC**

The Virginia Medical Political Action Committee each year submits to Council a list of nominees for the VaMPAC Board of Directors. The following Directors were approved for 1967-68: Dr. Joseph W. Milam, Dr. Alvin E. Conner, Dr. Joseph M. Kline, Dr. Francis G. Horne, Dr. Harry B. Taylor, Jr., Dr. Henry S. Spencer, Dr. Robert B. Webb, Dr. Edwin T. McNamee, Dr. Echols A. Hansbarger, Dr. R. C. Greene, Dr. Ira Godwin, Dr. C. C. Hatfield, Dr. Michael Puzak, Dr. Alex J. Mallis, Dr. J. M. Moss, Dr. C. M. Stone, Dr. Harold Williams, Dr. Thomas Edwards, Mr. Tom Holland, Mrs. James M. Moss, Mrs. F. Clyde Bedsaul and Mr. Ivan Roop.

### **Medical Examiners**

Council was advised that the Executive Secretary had been contacted by a County Medical Examiner concerning that physician's wish to serve on his County Board of Supervisors. The physician concerned is running for that office but has been told that being a Medical Examiner makes him ineligible. It is the physician's feeling that The Medical Society of Virginia should seek the enactment of legislation designating forensic medicine as a recognized specialty and making it possible for a Medical Examiner to hold other public office.

*After considerable discussion it was moved that further consideration be deferred until some clarification of the matter could be obtained. The motion was seconded and carried.*

### **Major Hospital Insurance**

Dr. Stone reported that the Society's major hospital program is encountering some difficulty as a result of a very high loss ratio (115%). Certain adjustments will, therefore, have to be made and the Insurance Committee has approved the carrier's proposal to increase the premium rates by 30%. It was brought out that this increase is not too bad when we take into consideration the fact that the plan's rates have been considerably under those of other similar programs for several years. The carrier does plan to increase coverage limits from \$10,000 to \$12,500—a very definite improvement. These changes will become effective January 15, 1968.

As a result of the increased costs of hospital care,

the Insurance Committee believes that a supplemental plan would be justified. The carrier has such a plan which would pay either \$10.00, \$20.00 or \$30.00 per day for up to one year in a hospital. This coverage would be available to the physician, his family (unmarried children under age 26), and his employees and their families. Premiums are very reasonable and the policy will also cover a convalescent period at home or in a nursing home.

*A motion to approve the proposed hospital supplemental plan was seconded and adopted.*

### **Vietnam**

Dr. Wallace has received a letter from Dr. Milford O. Rouse, President of the American Medical Association, on behalf of the "Volunteer Physicians for Vietnam" program. Each state medical society has been requested to do everything possible to sponsor the program in its state and give serious consideration to sponsoring a given number of physicians each year.

Dr. Wallace expressed the hope that (1) the Speaker would read Dr. Rouse's letter during the First Session of the House of Delegates, (2) that it could be published in its entirety in the Virginia Medical Monthly, and (3) that the President-Elect would explore the possibility of having the service tours reduced from the present 60-day minimum.

*A motion by Dr. Carmines that Dr. Wallace's three suggestions be approved was seconded and adopted.*

### **Drug Dispensing**

Council was advised that the Special Committee on Pharmacy had just about completed its series of meetings with representatives of the Virginia Pharmaceutical Association, State Board of Pharmacy and State Board of Medical Examiners. A number of proposed amendments to the Pharmacy and Drug Act have been considered during the year, and a determined effort was being made to find some middle ground on which the various organizations could agree.

Dr. Walton presented a short report which had been prepared by Dr. Mallory Andrews, Chairman of the Society's Committee on Pharmacy. The report stated that a stalemate seemed to have been reached in deliberations and the Society would appear to have no alternative but to press for passage of all proposed amendments during the next session of the General Assembly.

Dr. Walton then pointed out that a late report



had been received from Society attorneys and future meetings were scheduled with representatives of the pharmacy groups. Mr. Duval and Mr. Miller expressed the feeling that some progress was being made in drafting an amendment to the Pharmacy and Drug Act which would be generally acceptable to both pharmacists and physicians.

It was the opinion of Council that any decision should be delayed until the results of the next meeting with representatives of the pharmacy groups were known. This meeting will quite likely be held on November 15.

### **Nursing Practice Act**

An extensive revision of the Virginia Nursing Practice Act has been proposed by the Virginia Nurses Association and the support of The Medical Society of Virginia requested. Dr. Thompson, while supporting the wish of the Nurses Association to update the Act, pointed out that some of its restrictions seem quite severe—particularly those sections which restrict the performance and function of nursing. The proposed Act would prevent anyone from nursing without a license—regardless of how she refers to herself or her function. Brought out was the fact that this would pose a great problem for those physicians who have spent considerable time and money training their office assistants. It was Dr. Thompson's feeling that certainly an exception should be made where these assistants are concerned.

Other possible weaknesses in the proposed Act were discussed—including the lack of adequate exempting language where physicians are concerned.

Further discussion brought forth the comment that perhaps the Board of Nurse Examiners should have physician representation. Dr. Moss stated that the proposed revision to the Nursing Practice Act was the first since 1908. The feeling was also expressed that physicians should support nurses in their efforts to obtain reasonable pay scales.

Mentioned was the fact that the Governor's Commission on Nursing will not complete its task for quite some time. With this thought in mind, it was generally agreed that Council should withhold final action until the Governor's Committee had made known its findings and recommendations.

*Dr. Salley then moved that the Virginia Nurses Association be advised that, in view of the study being conducted by the Governor's Committee, and other questions requiring clarification, The Medical Society of Virginia is not in a position to give unqualified support to the proposed Act at this time.*

*The motion added, however, that the Society stands ready to consult with and assist the Virginia Nurses Association whenever it can be of help. The motion was seconded and adopted.*

### **Annual Dues**

Council was reminded that it had, on September 9, recommended a \$10.00 increase in annual dues for active members. Since the Society's Financial Report for the year was somewhat better than anticipated, it was felt that the proposed increase should be reconsidered. A motion by Dr. McCarty that the previous action by Council be referred was withdrawn.

*Dr. Grossmann moved that the action by Council on September 9 be rescinded. This motion was seconded and carried.*

Following a discussion of the Society's reserve funds and the many unforeseen problems which can arise during the course of a year, *Dr. Caruines moved that a contingency fund of \$20,000 be authorized from the Society's reserves for use only in case of dire need. The motion was seconded and adopted.*

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD, *Secretary*

### **Minutes of the House of Delegates**

#### **FIRST SESSION**

The House of Delegates of The Medical Society of Virginia met in the Chesapeake Room of the Marriott Twin Bridges Motor Hotel, Arlington, on October 19, 1967. The meeting was called to order at 2:00 P.M. by Dr. K. K. Wallace, President.

Following the invocation by The Reverend R. Dixon Beattie, Dr. Wallace introduced Dr. W. Callier Salley, Speaker of the House. Dr. Salley called for a report from the Credentials Committee, and was advised by Dr. James P. Charlton, Chairman, that a quorum was present. The minutes of the November, 1966, sessions of the House were approved as published in the January, 1967, issue of the Virginia Medical Monthly.

The Speaker then introduced Dr. Wallace, who delivered his Presidential Address. The address, which will be published in the December issue of the Virginia Medical Monthly, stressed the trials to which medicine is being subjected and the new demands and responsibilities which physicians must cope with daily.

Dr. Salley then turned the chair over to Dr. Edwards who introduced the following delegates



from allied organizations: Dr. Hume S. Powell, Richmond, President, Virginia State Dental Association; Mr. Charles S. Elliott, Lynchburg, President, Virginia Hospital Association; Miss Dorsye Russell, R.N., Lynchburg, President, Virginia Nurses' Association; and Mr. Edward L. Lilly, Norfolk, President, Student American Medical Association, Medical College of Virginia Chapter.

Dr. Kinloch Nelson, Dean, School of Medicine, Medical College of Virginia, then addressed the House and discussed the present status of medical education—particularly in Virginia and the Medical College of Virginia.

Next to be presented was Mrs. Ralph Landes, President of the Woman's Auxiliary to The Medical Society of Virginia. Mrs. Landes reported on the numerous Auxiliary projects being carried on over the State, and announced the formation of an Auxiliary to the Student American Medical Association. Her report was well received.

Also recognized was Mrs. Daniel H. Anderson, President-Elect of the Auxiliary.

Dr. Salley returned to the chair and called attention to the Rules of Procedure to be followed by the House. No amendments were proposed and the Rules of Procedure were considered approved.

The Speaker next appointed temporary chairmen from the Congressional Districts for the purpose of meeting with their respective delegations and electing members of the Nominating Committee. He informed the chairmen from the 1st, 2nd and 10th Districts that they should be prepared to submit three nominations each for appointment to the State Board of Medical Examiners. The 1st, 3rd, 5th, 7th and 9th District delegations were reminded that they should select nominees for Council.

The Speaker also asked that each District select one of its delegates for Reference Committee membership.

Following a brief intermission, Dr. Walter A. Porter, Chairman of the Finance Committee, reported the Society's financial status as of October 1 and presented a proposed budget for fiscal 1967-68. The budget was received and referred to an appropriate Reference Committee.

The Speaker then read a letter from Dr. Milford O. Rouse, President of the American Medical Association, calling for support of the "Volunteer Physicians for Viet Nam Program". The letter, in its entirety, will be published in the Virginia Medical Monthly.

Dr. Wallace reported to the House on the activities

of Council during the year. All matters contained in the report were referred to Reference Committees.

Dr. Salley at this point announced the nominees for the Committee on Nominations. The following were unanimously elected:

- 1st District: Paul Hogg, M.D.
- 2nd District: Charles N. VanHorn, Jr., M.D.
- 3rd District: Carl W. Meador, M.D.
- 4th District: Fletcher J. Wright, M.D.
- 5th District: William D. Lewis, M.D.
- 6th District: Alexander McCausland, M.D.
- 7th District: James R. Holsinger, M.D.
- 8th District: William Scott, Jr., M.D.
- 9th District: W. W. Walton, M.D.
- 10th District: C. Barrie Cook, M.D.

The various Committee reports were acknowledged and referred to Reference Committees. Committee Chairmen were invited to present supplemental reports should they desire. Supplemental reports were also referred to Reference Committees.

New business was next on the agenda and the Speaker announced that all resolutions introduced would be referred to Reference Committees and the assignments posted on a special board in the "registration" area.

Dr. Young introduced a resolution calling for better communications between the AMA and its members.

The Second District delegation sponsored a resolution calling for a thorough study of Blue Cross and Blue Shield "in all their relationships".

A resolution sponsored by the Richmond Academy of Medicine expressed opposition to the 7510 Plan proposed by the Virginia Medical Service Association and objected to discrimination between participating and nonparticipating physicians.

A resolution sponsored by the Arlington County Medical Society would have The Medical Society of Virginia oppose fee schedules leading to "administrative maximums" or "fee profiles".

Next to be introduced was a resolution calling attention to the inequities of professional license taxes.

A resolution sponsored by the Augusta County Medical Society was introduced recommending the enactment into law of the Medical Assistance Program prepared by the Virginia State Department of Health.

Another resolution introduced was sponsored by the Roanoke Academy of Medicine and sought to provide direct billing under Title XIX and eliminate

certification and recertification under Medicare.

The Roanoke Academy of Medicine was the sponsor of a resolution opposing endorsement of any program having a fee schedule under Title XIX different from that being used under Title XVIII.

Another resolution having to do with Title XIX recommended direct billing under that program.

Next to be introduced was a resolution deploring certain acts of coercion by representatives of the Department of Health, Education and Welfare.

The next resolution requested The Medical Society of Virginia—through AMA—to make every effort to simplify the requirements set down by the Joint Commission on Accreditation of Hospitals with reference to hospital charts.

The use of studded snow tires was recommended in a resolution sponsored by the Fairfax County Medical Society.

A resolution was introduced objecting to certain misinterpretations of the increasing cost of medical care which have appeared in newspapers over the country.

Also introduced was a resolution sponsored by the Lynchburg Academy of Medicine urging physician membership on hospital boards.

A proposed amendment to the By-laws was introduced on behalf of the Judicial Committee. The resolution would spell out the procedure to be followed when an adjustment in dues seemed advisable.

Another resolution contained a definition of blood services and requested its incorporation into the Virginia Code.

Introduced next was a resolution sponsored by the Fairfax County Medical Society stressing the need of cooperation between Departments of Health and private physicians.

Dr. McCausland then requested permission to introduce a resolution and, by common consent, have it acted upon without referral to a Reference Committee. His request was granted.

*Dr. McCausland then introduced the following resolution which was adopted unanimously:*

RESOLVED: that Dr. David K. Webster of Staunton, Virginia, be nominated to receive the award of the President's Committee for the Physically Handicapped and the Governor's Award Committee as the doctor doing the most toward the employment of the physically handicapped in Virginia.

The Speaker then announced the locations of Reference Committee meetings the following afternoon and requested the Committee on Nominations to meet

with him in order to select a time and place for its meeting.

Dr. Salley then announced that the Second Session of the House would be held in the Chesapeake Room on Saturday, October 21, at 3:30 P.M.

There being no further business, the meeting was adjourned.

## SECOND SESSION

The second session of the House of Delegates was called to order by Dr. Thomas S. Edwards, Vice-Speaker, at 3:30 P.M., on October 21, 1967, in the Chesapeake Room of the Marriott Twin Bridges Motor Hotel, Arlington.

Following the invocation by Rabbi Emmett Allen Frank, a quorum was reported by the Chairman of the Credentials Committee.

Dr. Edwards introduced Dr. Kenneth R. Crispell, Dean, University of Virginia School of Medicine, who discussed problems connected with the supply of physicians and delivery of services. The House was told that the nation is behind in its planning for producing the number of physicians needed in the future. Dr. Crispell indicated that the full effect of today's class increases will not be felt until the period between 1975-80. It came as a surprise to many that some 50,000 physicians practicing in this country today did not graduate from American schools. Dr. Crispell went on to say that the actual delivery of services was perhaps the second biggest problem—particularly in rural areas and cities proper. Only suburbia seems to be doing fairly well in this regard.

Dr. Edwards then surrendered the chair to Dr. Salley who called on Dr. Alexander McCausland for the report of the Committee on Nominations. The following nominees were elected:

President-Elect, Dr. F. Ashton Carmines  
1st Vice-President, Dr. W. Leonard Weyl  
2nd Vice-President, Dr. Dennis P. McCarty  
3rd Vice-President, Dr. W. Nash Thompson  
Speaker, Dr. W. Callier Salley  
Vice-Speaker, Dr. Thomas S. Edwards  
Executive Secretary-Treasurer, Robert I. Howard

The following Councilors were elected:

1st District, Dr. Raymond S. Brown  
3rd District, Dr. William R. Hill  
5th District, Dr. Francis H. McGovern  
7th District, Dr. James C. Respass  
9th District, Dr. Carl E. Stark

Nominations to be submitted to the Governor for

appointment to the State Board of Medical Examiners from the 1st, 2nd and 10th Districts were announced as follows:

*First Congressional District*

Dr. Paul Hogg  
Dr. James P. Charlton  
Dr. William Brown

*Second Congressional District*

Dr. Russell M. Cox  
Dr. Robert Faulconer  
Dr. Bryan Grinnan

*Tenth Congressional District*

Dr. Howard Mott  
Dr. Edward Gallagher  
Dr. C. Barrie Cook

It was then announced that the terms of Dr. W. Linwood Ball and Dr. Allen Barker, as Delegates to the American Medical Association, would expire on December 31.

Dr. Ball and Dr. Barker were nominated and re-elected without opposition. Their alternates, Dr. Alexander McCausland and Dr. Russell Buxton, were also re-elected.

Dr. Salley then relinquished the chair to Dr. Edwards, who immediately called for the report of Reference Committee No. 1. Dr. Salley had served as Chairman of that Committee.

REFERENCE COMMITTEE No. 1

It was the recommendation of the Committee that the report of the Executive Secretary-Treasurer be approved. *The House concurred.*

Dr. Salley then reported that over three hours of testimony had been received by the Committee in connection with the various reports and resolutions having to do with Blue Shield. It was the opinion of the Committee that credit and appreciation be expressed to members of the Virginia Medical Service Association Board for their dedicated and untiring efforts in the operation of that particular Plan. It was pointed out, however, that it seemed obvious that misunderstanding and dissatisfaction were prevalent among physicians of several sections in regard to some phases of the Plan's activities. Consequently, it was the Reference Committee's recommendation that no action be taken on the following:

- a. Report of Blue Shield Directors, including supplement;
- b. Item 4 of the Report of Council;

- c. Richmond Academy of Medicine resolution on the 7510 Plan of the Virginia Medical Service Association; and
- d. Resolution sponsored by Arlington County Medical Society in regard to "administrative maximums" or "fee profiles".

It was also the recommendation of the Committee that the resolution introduced by the Second District delegation be amended to read as follows:

RESOLVED: that the President of The Medical Society of Virginia appoint an ad hoc committee to study thoroughly all Blue Cross-Blue Shield Plans (operating in the Commonwealth of Virginia) as they relate to The Medical Society of Virginia.

A motion to consider each of the items separately was defeated.

Dr. Salley then moved acceptance of the Committee's recommendations.

Dr. Barker moved that the resolution introduced by the Second District delegation be amended in such manner as to have the ad hoc committee be composed of the President, President-Elect and three immediate Past-Presidents. The motion was seconded.

Following considerable discussion, a substitute motion was offered by Dr. Stark which would recommend to the President that those named in Dr. Barker's proposed amendment be appointed. The matter would, however, be left to the President's discretion. *The motion was seconded and adopted.*

Dr. Gerald Fisher then moved that the Arlington County resolution on "administrative maximums" or "fee profiles" be amended by adding the words "without income ceilings" to the "RESOLVED" portion. A roll call vote was taken and the motion to amend defeated.

*The Committee's recommendations were then adopted as amended.*

*The report of Reference Committee No. 1 as a whole was then adopted as amended.*

Dr. Salley once again assumed the role of Speaker and requested Dr. Edwards to present the report of Reference Committee No. 2.

REFERENCE COMMITTEE No. 2

On the recommendation of the Committee, the House approved the following Committee reports: AMA Delegates, Public Relations, Editorial Board, Cancer, Dependents' Medical Care, Alcoholism, Advisory to Medical and Allied Organizations, National Emergency Medical Service, Rehabilitation, Medical Education, Walter Reed Commission, Maternal



Health, House, National Legislation, Advisory to State Department of Welfare, Liaison to State Bar, and Pharmacy.

Supplemental reports approved as recommended by the Committee were those of the Committee on Rehabilitation and the Committee on Medical Education. In connection with the latter, it was noted that Dr. Harry B. Stone had requested that his negative vote be made a matter of record.

The House then approved the following items included in the report of Council: Dependents' Medical Care, Hill-Burton, Title XIX, "Prangley Plan", Retirement Program, Seat Belts, and Health Survey.

In its consideration of the statement of policy on abortions adopted by Council on September 9, 1967, the Committee recommended that the following be substituted for that section containing exceptions to the Society's opposition to induced abortion:

"In view of the above, The Medical Society of Virginia is opposed to induced abortion except when:

- (1) There is documented medical evidence that continuance of the pregnancy is likely to threaten the health or life of the mother; or
- (2) There is documented medical evidence that the infant is likely to be born with incapacitating physical deformity or mental deficiency; or
- (3) There is documented medical evidence that continuance of a pregnancy, resulting from legally established statutory or forcible rape or incest is likely to constitute a threat to the mental or physical health of the patient.

"Furthermore, the circumstances described above shall be recognized as valid indications for induced abortion only when:

1. Two physicians (other than the attending), chosen because of their recognized professional competence, have examined the patient and have concurred in writing; and
2. The procedure is performed in a hospital accredited by the Joint Commission on Accreditation of Hospitals."

*The amendment to the statement of policy was adopted.*

*The following resolution calling attention to the inequities of professional license taxes was adopted as recommended:*

WHEREAS: the membership of Augusta County Medical Society feels that the Professional and Merchants License Tax is inequitable in that (1)

it is an income tax in disguise levied on a limited segment of the population, and (2) the tax rate is not directly proportional to either the privilege afforded the vendor or the net profit earned on the business involved, and

WHEREAS: a payroll tax, if needed, would provide a more equitable and productive income tax, and

WHEREAS: the imposition of a municipal payroll tax is prohibited by Section 58-8512 of the State Code of Virginia; therefore, be it

RESOLVED: that The Medical Society of Virginia seek repeal of Section 58-8512 of the State Code of Virginia.

*The House then adopted the following resolution on Title XIX as recommended by the Committee:*

WHEREAS: Public Law 89-97 of the 89th Congress enacted Title XIX of the amendments to the Social Security Act, entitled Grants to the States for Medical Assistance Programs, requiring each of the states to formulate a program for participation in order to continue Federal Assistance for Medical Care of the Indigent, and

WHEREAS: the Governor of the Commonwealth of Virginia empowered the Virginia State Health Department, subject to the approval of the State Board of Health and the advice of the select Governor's Committee for Medicare to prepare such a proposal, and

WHEREAS: this completed proposal is compatible with the expressed aims of the American Medical Association and The Medical Society of Virginia, of providing adequate medical care to the truly indigent of the Commonwealth, and

WHEREAS: the Commonwealth of Virginia must implement a program for medical assistance which is compatible with Title XIX requirements by January 1, 1970; therefore, be it

RESOLVED: that The Medical Society of Virginia recommend to the Governor of the Commonwealth and the various legislators of the General Assembly of Virginia the adoption and enactment into law of the proposal for a Medical Assistance Program prepared by the Virginia State Health Department, September, 1967.

*It was the opinion of the Committee that the following resolution on H.R. 12080 be adopted and the House concurred:*

WHEREAS: the House Ways and Means Committee has approved and sent to the Senate Finance Committee H.R. 12080, and

WHEREAS: H.R. 12080 makes vendor payments under Title XIX mandatory for medical services to welfare patients who are cash recipients and also would eliminate certification but not recertification for hospitalized Medicare patients, and

WHEREAS: the mandatory vendor payment provision is a foot in the door for the Department of Health, Education and Welfare to control fees for all medical services, and

WHEREAS: the Roanoke Academy of Medicine and The Medical Society of Virginia have already expressed themselves against certification and recertification; therefore, be it

RESOLVED: that an emergency bulletin be mailed to all members of the Roanoke Academy of Medicine requesting each one to write or telegraph Senator Russell Long, chairman of the Senate Finance Committee, requesting that H.R. 12080 be amended to permit direct billing under Title XIX and that certification and recertification be eliminated in all titles of Medicare, and further be it

RESOLVED: that each member of the Roanoke Academy of Medicine be urged to send copies of such communications to medical colleagues in other states with a covering letter, asking them to write similar messages to their Senators, with a copy to the chairman of the Senate Finance Committee, and further be it

RESOLVED: that if the above amendments to H.R. 12080 are not incorporated in the bill prior to The Medical Society of Virginia meeting in October, 1967, a similar resolution be presented to the House of Delegates by the Roanoke delegation at that time.

*A resolution on Title XIX fees was also adopted on recommendation of the Committee.* The resolution follows:

WHEREAS: the cost to the Commonwealth of Virginia for its participation with the Federal Government in funding Title XIX of Public 89-97 is anticipated to be very high, and

WHEREAS: physicians' fees are not defined in the Federal law to be reasonable and customary but only to the extent that they will be accepted by a sufficient number of physicians in Virginia to assure comparable care for Title XIX recipients as the rest of the citizenry, and

WHEREAS: this lack of definition and the anticipated high cost could subject the physicians of Virginia to unreasonable pressure to accept substandard fees in the care of recipients of the Title XIX program; therefore, be it

RESOLVED: that The Medical Society of Virginia will not accept or endorse any program that has a fee schedule for recipients of Title XIX program that is any different than that now being used for recipients of the Title XVIII program.

*The House then approved the Committee's recommendation that the following resolution on direct billing under Title XIX be adopted:*

WHEREAS: fees for physicians' services for welfare patients eligible for Part B Coverage under Title XVIII of Public 89-97 are now paid by the assignment method only, and

WHEREAS: the American Medical Association and the Roanoke Academy of Medicine have formally encouraged physicians not to accept assignments in the Title XVIII program, and

WHEREAS: the method of payment for physicians' services has not yet been determined for the Title XIX program in Virginia; therefore, be it

RESOLVED: that The Medical Society of Virginia will not accept a program for payment of physicians' fees for the recipients of the Title XIX program that permits payment only by assignment.

The Committee reported that it had given very careful consideration to a resolution having to do with coercion by the Department of Health, Education and Welfare. *Adoption was recommended and the House concurred.* The resolution follows in its entirety:

WHEREAS: The Medical Society of Virginia passed a resolution in 1966 indicating that physicians in the State of Virginia were requested to refuse to sign the certification and recertification forms on the basis that it was a useless, time consuming and repetitive procedure, and

WHEREAS: representatives of the Department of Health, Education and Welfare are coercing and threatening local hospitals in recent months because of the lack of certification on charts of Medicare patients; therefore, be it

RESOLVED: that the Roanoke Academy of Medicine does deplore the action of the Health, Education and Welfare officials in pressuring hospitals and threatening them with the possible repayment to the government of funds for these cases, and be it

RESOLVED: that the House of Delegates of The Medical Society of Virginia adopt a similar resolution and send a copy to the proper officials of the Department of Health, Education and Welfare,



the Virginia Hospital Association and the American Hospital Association, and be it further

RESOLVED: that the Delegates to The Medical Society of Virginia be instructed to present this resolution to the House of Delegates at the American Medical Association at its next meeting.

*The following resolution having to do with hospital charts was then adopted:*

WHEREAS: physicians need more and more to conserve efforts and time in order to render medical assistance to the ever increasing demands of the public, and

WHEREAS: physicians alone can judge what medical information and the number of times it is repeated provides accurate records, and

WHEREAS: for years, physicians have been needlessly wasting time duplicating data, signing and initialing numerous orders now required by the Joint Commission on Accreditation of Hospitals for hospital charts, and

WHEREAS: countless thousands of badly needed physician man-hours could be created by stopping these unnecessary acts; therefore, be it

RESOLVED: that we, the physicians in charge of the patients, will resolve to place on the hospital charts the provisional diagnosis and the final diagnosis one time; that the operative procedure will be indicated on one occasion and that the physician, by signing the front of the chart, indicates that the orders countersigned by nurses throughout the chart are in order; be it further

RESOLVED: that The Medical Society of Virginia through the AMA exert every effort to simplify and reduce the requirements as indicated to the Joint Commission on Accreditation of Hospitals, and be it further

RESOLVED: that this resolution be adopted by The Medical Society of Virginia and that the Delegates of The Medical Society of Virginia be instructed to present this resolution to the American Medical Association for its consideration and adoption at the next meeting.

As its last item of business, Reference Committee No. 2 recommended adoption of a resolution on cooperation between Public Health Departments and practicing physicians. *The House concurred* and the resolution follows:

WHEREAS: the promotion of the public health is of deep concern to all members of the medical community, and

WHEREAS: cooperation between the practicing physicians in the community and the Public Health Department is in the best interests of providing optimal medical care to all persons, and

WHEREAS: the State Health Commissioner of Virginia has stated in his letter, dated April 14, 1967, to this Society that "generally speaking, the activities of the State and Local Health Departments are limited to the prevention concept of medical care, along with certain screening and laboratory services which emphasize the early diagnosis of certain diseases", and

WHEREAS: in this county, school nurses and others in the Public Health Department have actually been seeking patients without regard to their financial need, and immunization programs have been launched in the county without any prior consultation or cooperation with the Medical Society, and with little regard to proper preparation of the patients, and no adequate means for follow-up, and

WHEREAS: there are many facilities in this county in the Public Health field, especially in caring for the indigent or in providing services to the chronically ill, that could be expanded, and funds now being spent in caring for those not in need could well be directed to their area; therefore, be it

RESOLVED: that the Fairfax County Medical Society express its concern in providing for the optimal medical care of the entire community, but that this can only be done in a spirit of mutual consultation and cooperation between the Public Health Department and the private sector of physicians as represented by this Society; and be it further

RESOLVED: that this resolution be presented to The Medical Society of Virginia for consideration by the House of Delegates at its next meeting, as it may apply to other areas within the State of Virginia.

*The report of Reference Committee No. 2 as a whole was then adopted.*

Dr. Allen Barker was then introduced and requested to present the report of Reference Committee No. 3.

#### REFERENCE COMMITTEE No. 3

The following Committee reports were approved on the recommendation of the Committee: Membership, Ethics, Judicial, Medicine and Religion, Air Pollution, Insurance, Liaison to UMW Welfare Fund, Child Health, Heart-Cancer-Stroke, Mental Health,



Liaison to Nurse Examiners and Organized Nursing, Revision of Constitution and By-laws, and Advisory to Virginia Hospital Association.

The House then approved a recommendation that the report if the Liaison Committee to the State Department of Health be amended by adding the following:

"As of this date, no reply has been received from the President of the Virginia Society of Pediatrics in reference to the time interval regarding PKU testing."

It was the Committee's recommendation that no action be taken on the report of the Committee on Traffic Safety and that it be referred to the Legislative Committee for study and recommendation. *The House concurred.*

Dr. Barker then advised the House that his Committee was aware of the fact that the annual report of the Committee on Conservation of Hearing had been submitted late as a result of a misunderstanding. It was recommended, however, that the House, by its unanimous consent, permit the report to be considered. The House gave its unanimous consent.

Dr. Barker then reported that his Committee recommended adoption of the report of the Committee on Conservation of Hearing with one amendment—substituting the word "recommendation" for the word "requirement" in the first sentence of the second paragraph. *The recommendation was adopted.*

The Committee then recommended adoption of the proposed budget for 1967-68 as prepared by the Finance Committee and endorsed by Council. It was the Committee's further recommendation that a contingency fund of \$20,000 be authorized from reserves for use only in event of dire need. *The House voted approval* and the budget follows in detail:

#### EXPENSES:

Salaries .....	\$ 51,600.00
Telephone & Telegrams .....	1,800.00
Postage .....	2,000.00
Stationery & Supplies .....	2,500.00
Office Equipment .....	750.00
Building Maintenance .....	6,950.00
Convention Expenses .....	1,000.00
Council & Committee Expense .....	3,000.00
Executive Assistant—Travel .....	300.00
Delegates to AMA .....	2,500.00
President's Expense .....	3,000.00
Travel Expense .....	1,800.00
Virginia Medical Monthly .....	35,000.00
Scientific Exhibits .....	500.00
Legal Expense .....	11,500.00
Walter Reed Commission .....	2,000.00
Woman's Auxiliary .....	100.00

Membership Dues (Affiliated Organizations) .....	\$ 500.00
Editor—Virginia Medical Monthly .....	1,000.00
VaMPAC (Educational Fund) .....	12,000.00
News and Views .....	400.00
Retirement Fund .....	6,500.00
Payroll Taxes .....	2,200.00
Public Relations .....	3,250.00
Miscellaneous .....	500.00

#### Special Appropriations:

Virginia Council .....	4,000.00
AMA-ERF .....	1,000.00
Rural Health .....	500.00
*Scholarship—MCV .....	2,000.00
*Scholarship—UVa .....	2,000.00
Student AMA .....	100.00
National Society for Medical Research .....	150.00
Miscellaneous AMA .....	400.00

TOTAL BUDGET .....\$162,800.00

\*Administered by The Medical Society of Virginia.

Studded snow tires was the subject of the next resolution recommended for adoption. *The House concurred* and the resolution follows:

WHEREAS: studded snow tires have been proven to be superior over regular snow tires in driving under hazardous conditions, particularly on icy roads, and

WHEREAS: they are presently in use in many other states to the advantage of motorists, and

WHEREAS: they are definitely less abrasive to the road surface than snow chains, and

WHEREAS: the Highway Department of the Commonwealth of Virginia has been extremely efficient in clearing main arteries of snow and ice, but during large accumulations residential areas could not be cleared in sufficient time and remained icy for longer periods of time, and

WHEREAS: the use of studded snow tires could make the difference whether a physician is able to undertake an emergency call under adverse weather conditions or not, with serious consequences; therefore, be it

RESOLVED: that the Fairfax County Medical Society strongly endorse a change of legislation to permit the use of studded snow tires in the Commonwealth of Virginia.

Dr. Barker then reported that while his Committee agreed in principle with the resolution on newspaper releases and physicians' fees, it recommended that a substitute be adopted. *The House concurred* and the substitute resolution follows:

WHEREAS: much recent criticism of physicians' fees and increased hospital costs has emanated through news media, and

WHEREAS: some highly placed labor and governmental officials openly advocate the complete socialization of the medical profession and the fixing of professional fees, and

WHEREAS: it is well known that much of the increased cost of medical care is the direct result of increased labor costs resulting from inflationary government policies, be it therefore

RESOLVED: that The Medical Society of Virginia express strong opposition to such misinterpretations and request the American Medical Association to use all necessary means to refute such accusations and bring to the attention of the public by means available the true facts in the high cost of medical care, and be it further

RESOLVED: that the House of Delegates of The Medical Society of Virginia instruct its Delegates to the American Medical Association to present this resolution to the next meeting of the AMA House of Delegates.

The House was advised that, after careful consideration, the Committee believed it advisable to amend the resolution having to do with physicians on hospital boards by inserting the words "representing the hospital staff or local medical society" after the words "... be urged to include physicians" in the fourth "WHEREAS". *The House approved the Committee's recommendation* and the resolution now reads as follows:

WHEREAS: scientific achievements and socio-economic factors of the past several decades have resulted in many changes in the practice of medicine and the provision of health care, and

WHEREAS: a major change has been the trend toward hospital oriented medical care and the increasing involvement of hospitals in community health matters, and

WHEREAS: physicians are especially well equipped to serve with representatives of other professions and business leaders on hospital governing boards and are able to contribute significant knowledge to the operation of such facilities, and

WHEREAS: the American Medical Association has adopted resolutions (endorsed by The American College of Physicians, American College of Surgeons, and American College of General Practice) establishing a policy that hospital governing boards be urged to include physicians representing the

hospital staff or local medical society in their membership and that state and local societies seek the cooperation of such boards in implementing this policy; therefore, be it

RESOLVED: that The Medical Society of Virginia endorse these resolutions of The American Medical Association; and be it further

RESOLVED: that component societies of The Medical Society of Virginia be urged to seek the cooperation of their local hospital boards in securing physician membership on such governing bodies.

A resolution to amend Article II, Section 1 of the By-laws was next considered and the Reference Committee recommended that the first "WHEREAS" be deleted in its entirety. An amendment was then approved which would insert the words "or amended" after the word "adopted" in the second sentence of Section 1. *The House then adopted the resolution in the following form:*

WHEREAS: the By-laws must be amended to permit a change in the dues; therefore, be it

RESOLVED: that Article II, Section 1 of the By-laws of The Medical Society of Virginia be amended to read as follows:

Section 1—Membership dues, by amount and by category of membership to which such amounts are applicable shall be determined at each annual meeting of the Society for the next fiscal year. A recommendation regarding such dues shall be presented by the Council to the House of Delegates at each annual meeting of the Society and may be adopted, or amended, by the House of Delegates by a majority vote. If no recommendation is made by Council or no action taken by the House of Delegates, the dues applicable during the preceding fiscal year shall remain in effect.

The Committee reported that it had given much consideration to the resolution having to do with the providing of blood, and suggested that the first "RESOLVED" be rewritten in such manner as to give it additional strength. *The House concurred and the resolution was adopted in the following form:*

WHEREAS: blood for transfusion is human living tissue and is not a commodity, and

WHEREAS: blood does not carry an expressed or implied warranty, and

WHEREAS: blood used for transfusion is a service, an integral part of the rendition of medical services to the individual, and

WHEREAS: most blood banks operate on the vol-

untary donor replacement or pre-deposit donor system designed to obtain maximum voluntary donor participation in replacement of blood used by patients, and

WHEREAS: the American Association of Blood Banks has unanimously adopted the above in its statement of principles of blood procurement; be it

RESOLVED: that the following definition of blood services be presented to the House of Delegates of The Medical Society of Virginia for endorsement:

The procurement, processing, distribution or use of whole blood, plasma, blood products, blood derivatives and other human tissues such as corneas, bones or organs for the purpose of injecting, transfusing or transplanting any of them into the human body is declared to be, for all purposes, the rendition of a service by every person participating therein and, whether or not any remuneration is paid therefor, is declared not to be a sale of such whole blood, plasma, blood products, blood derivatives or other tissues, for any purpose, subsequent to enactment of this section;

and be it further

RESOLVED: that upon favorable action by the House of Delegates that The Medical Society of Virginia support appropriate action to incorporate this definition of blood services into public law of the Commonwealth of Virginia.

It was the recommendation of the Committee that the resolution on better communications between the American Medical Association and its members be received by the House as a matter of information and then referred to AMA for its information. After some discussion, *the House approved the Committee's recommendation* and the following resolution was received as a matter of information:

WHEREAS: the individual physician finds it more and more difficult to promptly find out about, read, and understand the multitude of new legislative proposals which would affect medicine, and

WHEREAS: within the past few weeks there has been considerable confusion over whether certain proposed changes in Title XIX should be supported or opposed (and this is not an isolated event); therefore, be it

RESOLVED: that The Medical Society of Virginia go on record as asking the AMA to promptly establish a special feature page in the AMA NEWS which shall list and summarize all proposed national legislation (and state legislation when indi-

cated) of interest to the medical profession; and that this special page shall plainly indicate the stage in which the legislation is currently, the chairman of the committee in which the legislation is being considered, other legislators whose influence on the matter would be important; and that the AMA position, if any, on the matter be plainly stated with reasons clearly given; and that a running "scoreboard" be maintained on all these legislative proposals; and, further be it

RESOLVED: that when matters requiring urgent attention come up that the membership will be notified by a special bulletin such as the LEGISLATIVE ROUNDUP (which is now sent only to the chairman of the Legislative Committee); and, further be it

RESOLVED: that the AMA Delegates from The Medical Society of Virginia present this petition to the House of Delegates at the next meeting of the AMA.

*The report of Reference Committee No. 3 as a whole was then adopted as amended.*

Dr. Liddle was recognized for the purpose of introducing a motion by common consent of the House. No opposition was noted, and *the following resolution was adopted:*

RESOLVED: that the House of Delegates of The Medical Society of Virginia make known to the Committee on Arrangements and our three host Societies from northern Virginia its sincere appreciation for one of our very best annual meetings; and be it further

RESOLVED: that a special vote of thanks be directed to the management and staff of the Marriott Twin Bridges Motor Hotel for their unfailing cooperation in making this meeting a most memorable one.

After thanking the House for its cooperation, and a word of appreciation for the Vice-Speaker and Parliamentarian, Dr. Salley declared the meeting adjourned.

ROBERT I. HOWARD, *Secretary*

APPROVED:

W. CALLIER SALLEY, M.D., *Speaker*

The following reports, while accepted by the House of Delegates, have not been previously published.

### Pharmacy

Dr. Alexander McCausland, President of The Med-



ical Society of Virginia during 1965-66, appointed a special committee on pharmacy to confer with representatives of the State Board of Medical Examiners, State Board of Pharmacy and Virginia Pharmaceutical Association on the whole problem of drug dispensing by physicians. The members of this Committee were Dr. W. W. Walton, Pulaski; Dr. George Reynolds, Bowling Green; Dr. J. Warrick Thomas, Richmond; Dr. F. Clyde Bedsaul, Floyd; and Dr. Mallory S. Andrews, Norfolk, Chairman. In February 1967, Dr. Lloyd Griffith, Mount Holly, was appointed by Dr. K. K. Wallace, President of the Society during 1966-67.

#### MEETING OF AUGUST 4, 1966

Your Chairman met with Mr. John Duval, attorney for the Society, and Mr. Robert I. Howard, Executive Secretary, in the Society's headquarters building in Richmond. The matter of dispensing and sale of drugs by physicians was discussed. Dr. Duval submitted an excellent report on the subject which was subsequently distributed. The Chairman requested (1) Mr. Howard to send each member of the Committee a copy of Mr. Duval's report and the latest copy of the Virginia Pharmacy and Drug Act, and (2) arrange for the full Committee to meet on September 1, 1966.

#### MEETING OF SEPTEMBER 1, 1966

Dr. Andrews opened the meeting by reviewing those actions leading to the formation of the Committee. He stated that at least two Virginia physicians had been found guilty of violating provisions of the State Pharmacy Code and that the State Board of Pharmacy had indicated its intention of keeping a closer watch on dispensing practices over the State. It was a result of the Board's warning that Dr. Russell M. Cox, Secretary-Treasurer of the Virginia Board of Medical Examiners, had written a letter to all physicians acquainting them with basic provisions of the Code having to do with dispensing by physicians. Dr. Andrews then told of the concern voiced by many physicians over these developments and reported Council's action in directing the appointment of the Committee to study the overall problem and eventually meet with representatives of the Board of Pharmacy, Board of Medical Examiners and Virginia Pharmaceutical Association.

The Committee was also briefed on an earlier meeting arranged by the Society and attended by representatives of the Society, Virginia Pharmaceutical Association, Virginia Board of Pharmacy, and the Virginia Board of Medical Examiners. Although all

parties were not in complete agreement, there had been developed an amendment to the Code which, with only minor changes, was ultimately enacted by the General Assembly. The amendment, actually drawn by Mr. Duval, read as follows:

"54-481. This chapter shall not be construed to interfere with any legally qualified practitioner of medicine, dentistry, osteopathy or veterinary medicine, who is not the proprietor of a store for the dispensing or retailing of drugs, or who is not in the employ of such a proprietor, in the compounding of his own prescriptions, or to prevent him from supplying to his patients such medicines as he may deem proper, if such supply is not made as a sale, *and such practitioner, in cases of emergency where there is an immediate need of medicines, or in cases where a patient does not have reasonably prompt and convenient access to a pharmacy where the proper drugs or medicines can be procured, may make a reasonable charge for the drugs or medicines so dispensed, and the making of the charge shall not cause the dispensing to be made as a sale under the provisions of this chapter.*"

It was interesting to learn that the amendment was not supported by the Virginia Pharmaceutical Association in the beginning—its thinking being that it could not be enforced. Support came, however, after Dr. Pennington, member of the Virginia House of Delegates, indicated that he would press for legislation to delete from the Code any reference to a "sale" where dispensing is concerned.

The Chairman read portions of correspondence with the American Medical Association having to do with laws of other states. Apparently Virginia is one of the very few having fairly strict registration laws for physicians wishing to dispense. Mr. Duval indicated that he was not too concerned with registration as such, but rather what a physician could or could not do under the law.

Dr. Thomas acquainted the Committee with a special problem he has supplying his patients with special medication they need. Because of the special nature of his practice, there are no sources readily available in the Richmond area and it is necessary for Dr. Thomas to prepare the individual prescriptions in his office. This, of course, also requires that he maintain a substantial supply of drugs on hand at all times. Consequently, it would appear that Dr. Thomas, through no fault of his own, has no alternative but to dispense in a manner not permitted under the Pharmacy Code.

After considerable discussion, it was requested that

Mr. Duval draw up a list of matters to discuss, and perhaps negotiate, with representatives of the Board of Pharmacy and the Virginia Pharmaceutical Association. This would include a possible set of principles to govern the relationship of pharmacists and physicians. There being no further business, the meeting was adjourned.

#### MEETING OF JANUARY 26, 1967

Another meeting of the Special Committee on Pharmacy was held at Society headquarters on January 26, 1967.

The sales tax problem was discussed and Mr. Duval stated that no reply had been received from Mr. Morrisett, State Tax Commissioner. A letter stating the Society's position had been directed to Mr. Morrisett on November 28, 1966.

It was agreed that little could be done until Mr. Morrisett had been afforded an adequate opportunity to consider the points set forth in the letter and then reach some decision. At the present time, most physicians are having to pay a tax on just about everything they purchase from the pharmacy or drug supply house.

Drug dispensing by physicians was then discussed at length. Dr. Andrews indicated that a good many people, including some members of the General Assembly, confused the matter of dispensing with dangerous drug legislation.

Mr. Duval stated that he and Mr. Miller had carefully examined the present Pharmacy Code and were of the opinion that a number of amendments would be necessary to clarify the situation once and for all. Each member of the Committee was provided a copy of the suggested amendments, and it was agreed that the proposed amendments to Section 54-481 represent a key to the problem. This Section applies to the whole of Chapter 15 and contains a phrase "if such supply is not made as a sale". Brought out was the fact that that particular phrase was added back in 1908.

The Committee, after going over the proposed amendments carefully, expressed pleasure over the groundwork done by Mr. Duval and Mr. Miller. A proposal that the suggested amendments be included on the agenda for the meeting of representatives of the Board of Medical Examiners was endorsed.

Dr. Thomas then proposed that the agenda include a suggestion that the booklet containing excerpts from the Medical Practice Act also include an explanation of key provisions of the State Pharmacy Code. It was agreed that such an explanation would be of great benefit to most physicians. Brought out was

the fact that ethics could not be divorced from any consideration of the dispensing problem. A letter from the American Medical Association pointed out that "drugs, remedies, or appliances may be dispensed or supplied by the physician provided it is in the best interest of the patient." This statement is taken directly from Section 7 of the Principles of Medical Ethics.

Pointed out also was the fact that the AMA Judicial Council has repeatedly stated that physicians should not dispense solely for their convenience or for the purpose of supplementing income.

Mr. Duval and Mr. Miller were requested to proceed with the preparation of legislation designed to bring about the necessary amendments to the Pharmacy Code.

It was agreed that a meeting with representatives of the Board of Medical Examiners should be held just as soon as possible and tentative dates were agreed upon for April.

#### MEETING OF APRIL 29, 1967

A joint meeting of the Special Committee on Pharmacy and representatives of the Board of Medical Examiners was held at Society headquarters on April 29.

The first item of business was consideration of a series of proposed amendments to the Pharmacy and Drug Act of Virginia as prepared by Mr. Duval and Mr. Miller. These amendments were in keeping with suggestions made by the Committee in previous sessions. Mr. Duval mentioned the fact that there is often a difference in the meaning between making a "charge" and the phrase "as a sale". It was pointed out that many times a physician will secure a drug and obtain reimbursement from the patient, and this could not be construed "as a sale" in the generally accepted sense. Brought out was the fact that only two states, Virginia and West Virginia, actually have "as a sale" provisions in their Pharmacy Code.

There followed considerable discussion concerning the difficulties encountered by some eligible physicians in seeking a license to dispense. It has been necessary in some cases for the physicians concerned to obtain legal assistance.

The Chairman then read a letter from Dr. J. Warwick Thomas outlining the dispensing problems he encounters daily in his practice. Dr. Thomas stated:

"In my practice with allergic diseases, it is necessary for me to have multiple allergens in a single extract in varying or serial dilutions. Dosages have to be adjusted and tailored for each individual patient's prescription needs and they often



require modification of the dosage. Moderate requirements of the various antigens, allergens, extracts, and vaccines makes it almost impossible for any druggist or prescription source to handle such materials because of the lack of sales or needs that would warrant them to keep such an inventory, since my work is so individualized. This is the same circumstance that occurs with other doctors in my type of specialty, particularly if they limit their work to this. These treatment sets of materials are a part of my therapy for the patients and, of course, they have to take care of the costs that I encounter . . .

"Many of the patients are subject to acute reactions, and it is necessary for me to give them emergency drugs coincident with these actual treatment sets on occasion. Therefore, I have to have such emergency drugs available. On occasions, I make up individual packages of drugs for emergency use which I give to the patients and consider them more or less a part of the fee for just the basic cost. These drugs have to be in *bulk* because of the volumes that I require. My inventory of extracts may vary from \$10,000 to \$18,000 at various times of the year.

"I would further like to state that many of my patients experience reactions after they have had their first dose of a said prescription. In such a case, this prescription must be diluted or modified and we must supply them with this. On occasion, because of reactions experienced from pollen extracts, we must mix in with a tailored prescription one of the antihistamines to help lessen such reactions. Many of my patients are from Southwest Virginia, Norfolk, and other areas of the State and must have their materials mailed to them. This, of course, is dependent on their local doctor's request for further materials or modifications or at patient's direct telephone call with me. These materials are packaged and shipped for my own individual patients, and I supply materials to no other patients but those under my direct care."

Further discussion revealed that there is only one pharmacy in the Norfolk complex which remains open on a 24-hour basis with a registered pharmacist on duty. While this situation poses many problems in a large city, it also poses a problem in the smaller towns.

Dr. Zimmerman indicated that Dr. Cox is fully appreciative of the physician's problems where dispensing is concerned and is not interested in seeing unnecessary restrictions or limitations imposed. He does, however, have a responsibility to see that the practice of medicine is controlled effectively—in

keeping with existing directives. It was further brought out that Dr. Cox wants to make sure that the medical profession does not suffer harm because of unwarranted actions of some physicians. It was agreed that the action of physicians should be controlled by the Board of Medical Examiners rather than the Board of Pharmacy.

Mr. Miller then reviewed in detail a proposed amendment to the Pharmacy and Drug Act. He read comments from Dr. Cox on the proposed amendments—one which stressed the fact that physicians cannot ethically dispense for their own convenience or for the purpose of supplementing their income.

Dr. Hutt expressed an opinion that the proposed amendments had much to recommend them and that the Board of Medical Examiners might wish to look at the problem from the viewpoint of the Medical Practice Act. Again there was general agreement that physicians should be free of control by the Board of Pharmacy.

The Committee discussed the upcoming session of the General Assembly and recognized the difficulties which lay ahead in obtaining the enactment of the proposed legislation. A great deal of preparation and groundwork would be necessary. Dr. Zimmerman and Dr. Hutt indicated that the proposed legislation would have to be discussed with the full Legislative Committee of the Board and it was decided that another meeting should be held some time in June. This meeting would be a joint affair between members of the Pharmacy Committee and the Legislative Committee of the Board of Medical Examiners. The date selected was June 7, 1967.

The sales tax problem was next discussed. Mr. Miller explained that great care had been taken during the 1966 Session of the General Assembly to make sure that the law would exempt not only those drugs made available on prescription but also those dispensed by physicians. A meeting with Commissioner Morrisett in the fall of 1966 brought little satisfaction although the Society was invited to state its position. Mr. Duval and Mr. Miller recently met once more with Commissioner Morrisett and learned of his concern that physicians might dispense drugs of a nonprescription nature (over-the-counter variety) and no sales tax would be collected. He conceded, however, that the best course of action might be to seek clarification of the law in the upcoming session of the General Assembly.

During the ensuing discussion, a question was raised whether a Bill should be prepared seeking clarification of the problem. It was agreed that while it



might be advisable to have this Bill ready for introduction, nothing should be done to jeopardize the profession's effort to resolve the dispensing problem. A motion to have a suitable Bill drawn for possible use with the understanding that it would only be introduced if the climate appeared favorable was seconded and adopted.

#### MEETING OF JUNE 7, 1967

A joint meeting of the Special Committee on Pharmacy and members of the Legislative Committee of the State Board of Medical Examiners was held at Society headquarters on June 7, 1967.

Dr. Andrews reviewed those events leading to the present meeting. He stressed the fact that the Committee's existence and its efforts to solve the many problems surrounding the dispensing of drugs by physicians could be attributed to a directive of the Council of The Medical Society of Virginia. It was brought out that there are actually two sides to the dispensing question—legal and ethical. Considerable attention was given the opinion of the AMA Judicial Council in this regard. Brought out was the fact that physicians cannot ethically dispense for their own convenience or for the purpose of supplementing their incomes.

The Committee then heard examples of problems physicians encounter where dispensing is concerned. Dr. Andrews thought that the situation of Dr. Thomas was particularly interesting and read a letter setting forth the problems encountered by Dr. Thomas daily in his practice.

Mr. Duval and Mr. Miller were then requested to cover the proposed amendments to the Pharmacy and Drug Act of Virginia in order that the two groups could consider them point by point. Mr. Duval stated that the present statutes actually go back some 60 years. Today, they practically stand alone since the vast majority of states have legislation more or less restrictive.

The first proposed amendment to be considered had to do with Section 54-417. This amendment is for the purpose of clarification—the feeling being that the present Section was never intended to authorize members of the Board of Pharmacy—or their agents—to make inspection of drugs and medicine kept by physicians for dispensing to their patients, or to inspect their offices and homes.

A question was raised concerning whether the amendment places any limitation on agents of the Department of Health, Education and Welfare and it was agreed that it would not conflict with Federal law. Dr. Griffith told of his experience with

agents of the State Board of Pharmacy—particularly where inspections were concerned.

Dr. Thomas then quoted from a special report commenting on the rights of F.D.A. to control a physician's private practice. The report indicated that no Federal statute exists which gives F.D.A. this right.

Another question had to do with ethical violations by physicians and how the Board of Medical Examiners could exercise necessary control. Dr. Cox went on to explain the present statute governing the dispensing of drugs by physicians and the necessity of obtaining a license for this purpose. He wished it understood that he is very much in sympathy with physicians of the State in their efforts to solve the problem and is quite in accord with their wishes to have the practice of medicine under the complete control of the Board of Medical Examiners.

Following discussion, it was agreed that the proposed amendment to Section 54-417 be changed to read as follows:

" . . . provided, however, that the power of inspection granted by this Section shall not apply to drugs, drug products or domestic remedies in the possession of a licensed practitioner of medicine, osteopathy, dentistry, chiropody (podiatry) or veterinary medicine and surgery, or to the office or home of such practitioner."

Dr. Hutt then reported on a meeting held a few days earlier for the members of the Legislative Committee of the Board of Medical Examiners. That Committee gave particular attention to Section 54-317 of the Medical Practice Act. This particular section deals with "unprofessional conduct". Dr. Hutt read the following proposed addition to that Section:

" . . . (9) dispenses drugs, and related medical devices, including eyeglass frames and lenses for the sole purpose of profit, or without a proper doctor-patient relationship. This shall also be construed to include the meaning that any physician who dispenses the above items to patients other than those in his own private practice is guilty of unprofessional conduct".

The group then turned again to the proposed amendment to the Pharmacy Code and considered a suggested amendment to Section 54-445. The proposed changes will permit the sale of dangerous drugs at wholesale to licensed practitioners generally doing away with the requirement that the purchase must be "for purposes other than resale". The amendment, as proposed, was approved.

Section 54-475 was then considered and a proposed amendment was approved as follows:

"Except as *otherwise provided* in this chapter it shall be unlawful for any person to practice as a pharmacist, or assistant pharmacist, or to engage in, carry on, or be employed in the dispensing, compounding or retailing of drugs, medicines or poisons within this State; the possession by any person, *except a licensed practitioner of medicine, osteopathy, chiropody (podiatry), dentistry, or veterinary medicine*, in any place other than a private home or place of storage of a miscellaneous stock of bulk pharmaceuticals, drugs, or medicinal preparations not in the original packages shall be prima facie evidence that such person is practicing pharmacy".

The key Section 54-481 was next considered and the following proposed amendment approved:

"This chapter shall not be construed to interfere with any legally qualified practitioner of medicine, dentistry, chiropody (podiatry), osteopathy or veterinary medicine, who is not the proprietor of a store for the dispensing or retailing of drugs, or who is not in the employ of such a proprietor, in the compounding of his own prescriptions, *or the purchase and possession of such drugs and medicines as he may require, or to prevent him from administering, dispensing or supplying to his patients such medicines as he may deem proper \*\*\*.*"

Next to be considered was Section 54-485 and it was proposed that the words "by or" be inserted in such manner as to make the exemption from labeling apply to poisons dispensed by practitioners as well as poisons dispensed on prescription of practitioners. The proposed amendment was approved.

A proposed amendment to Section 54-487 was approved and reads as follows:

"The following words and phrases, as used in this article, shall have the following meanings, unless the context otherwise requires:

"(17) 'Dispense' includes *sell, distribute, leave with, give away, dispose of, . . . deliver or supply.*"

The last section to be considered was 54-496. An amendment was proposed which would give the practitioner who discontinues practice the right to dispose of his supply of narcotic drugs in the same manner as does a pharmacist who discontinues dealing with such drugs. The amendment was approved and that portion of the Section affected would read as follows:

"(2) The legal owner of any stock of narcotic drugs in a pharmacy *or in the possession of a physician, dentist, or veterinarian*, upon discontinuance of dealing in, *prescribing, administering or dispensing* such drugs, may sell such stock to a manufacturer, wholesaler, . . . apothecary, *physician, dentist or veterinarian*, but only on an official written order."

The two groups once again considered Dr. Hutt's proposed amendment to Section 54-317 of the Medical Practice Act. A question was raised concerning the expression "for the sole purpose of profit". It was generally agreed that the expression "primarily for profit" would be better.

Dr. Hutt then moved that the proposed amendment to the Medical Practice Act be referred to Mr. Duval and Mr. Miller with the request that it be rewritten in such manner as they believe advisable—keeping in mind the following two points:

- (1) that it is unprofessional for a physician to dispense primarily for the purpose of profit, and
- (2) that it is unprofessional for a physician to dispense to other than his own patients.

The motion was seconded and adopted.

It was agreed that the time was at hand to meet with representatives of the State Board of Pharmacy and the Virginia Pharmaceutical Association. It was also agreed that members of the Legislative Committee of the State Board of Medical Examiners should attend this meeting.

#### MEETING OF JULY 26, 1967

The Special Committee on Pharmacy of The Medical Society of Virginia held a joint meeting on July 26, with representatives of the State Board of Medical Examiners, State Board of Pharmacy and Virginia Pharmaceutical Association. Dr. Andrews read a letter which had been written to Mr. Bain and Mr. Carson by the Executive Secretary on July 3, 1967. The letter pointed out why physicians are concerned with those sections of the Virginia Pharmacy Code having to do with the dispensing of drugs. It was learned that the Council of The Medical Society of Virginia had, in February of 1966, directed that a special committee be appointed for the purpose of making an extensive study of the problems involved and to find some solution.

It was brought out that it is most necessary that medicine and pharmacy enjoy a high degree of cooperation and also that autonomy for each profession is not only desirable, but in many ways a must.



Professional autonomy does prevail in Virginia with the one exception under study.

The letter went on to stress that physicians generally have no desire to operate retail pharmacies. The practice of medicine is much too demanding to permit physicians to perform any other service which can properly be delegated to another profession. Then, too, the principles of medical ethics are fairly explicit concerning what services physicians might perform properly. They do, however, wish to regulate their own profession and feel strongly that it is the responsibility of the Board of Medical Examiners to govern the activities of physicians in the dispensing of medicine and drugs.

Dr. Andrews presented some examples of how the present Pharmacy Code affects the practice of some physicians and pointed to the situation of Dr. Thomas as one of the best examples.

Mentioned was the fact that only one other state—West Virginia—apparently places any restrictions on the sale of drugs by a physician to his patients. A letter from the attorney for the West Virginia Medical Association indicated that, however, it is common practice in that state for physicians to dispense drugs and medicines to their patients and make a reasonable charge therefor. Because of the situation that exists, the West Virginia Society contemplates no action.

Dr. Andrews next called on Mr. Miller to review the proposed amendments to the Pharmacy and Drug Act. In his introductory remarks, Mr. Miller pointed out that the present statutes go back to 1908. It was at that time that the words "if such a supply is not made as a sale" were written into the law. He indicated that if these words could be struck from Section 54-481, Virginia physicians would be restored to the position they held prior to 1908. Such a change, of necessity, requires conforming changes in other sections of the Pharmacy statutes.

Proposed changes in the Medical Practice Act were first covered. It was proposed to amend Article 5, Section 54-317 in such manner as to give the Board of Medical Examiners full authority to discipline those physicians not holding certificates to practice pharmacy, found guilty of selling medicines, drugs, etc., to persons other than their own patients or selling such articles solely for convenience or primarily for the purpose of supplementing income.

The Pharmacy Code was next covered. A proposed amendment to Article 2, Section 54-417 would exempt a physician from an inspection by the Board of Pharmacy of drugs, drug products, etc., whether in

his possession, office, or home. A question was raised as to whether this exemption would apply to various clinics registered in the name of physicians. Some feeling was expressed that drugs should be inspected no matter where they might be. It was learned that Virginia is cooperating with the F.D.A. in a pilot project which minimizes F.D.A. inspection and interference. As a result of this pilot agreement, the State is responsible for most inspections and the Federal Government, for the most part, keeps hands off.

Article 5, Section 54-445 was then considered and a proposed amendment would permit the sale of dangerous drugs at wholesale to licensed practitioners generally—doing away with the requirement that such purchases must be "for purposes other than resale".

Article 9, Section 54-475 was next discussed. A proposed amendment would improve the wording by substituting "except as otherwise provided" for "except as prescribed". Since this chapter does not prescribe any manner of handling drugs by medical practitioners, it would seem that "provided" is more accurate than "prescribed". The section would also be amended to remove physicians and certain other practitioners from the provision that possession of miscellaneous stocks of bulk pharmaceuticals, etc., not in original packages—in any place other than a private home or place of storage—constitutes *prima facie* evidence of the practice of pharmacy.

Next to be covered was the key Section 54-481. The principal proposed change is the elimination of those words "if such a supply is not made as a sale". The Committee feels strongly that the removal of such restriction is certainly in the best interest of the patient.

The proposed amendment to Article 10, Section 54-485 would simply add the words "by or" in order to make the exemption from labeling apply to poisons dispensed by practitioners as well as poisons dispensed on prescription of practitioners.

Certain minor amendments were proposed for Section 54-487 and 54-496 of Article 11. The words "sell" and "supply" were added to the former to make a definition of "dispensing" identical with the definition set out in Article 1, general provisions, Section 54-399. The latter would be amended in such manner as to give the medical practitioner who discontinues practice the right to dispose of his supply of narcotics in the same manner as a pharmacist who discontinues dealing in such drugs.

Pharmacists expressed some concern over drug dis-



pensing methods sometimes employed in physicians' offices. Laxness has been noted in a number of instances—particularly in industrial situations. It was agreed that repeated violations should most certainly be reported to the Board of Medical Examiners.

In response to a question as to just how far the physicians really want to go, it was stated that they are not interested in operating drug stores. They do, however, want to be regulated by the Board of Medical Examiners and be quite sure that they are not practicing beyond the law.

The group was then briefed on an Eastern Shore situation involving two physicians. These physicians are proposing to build two drug stores, one of which would reportedly be in a community where a drug store already exists. The local medical society has been looking into the matter, and it was recently learned that registered pharmacists will, for all intent and purposes, operate the store.

During the ensuing discussion with respect to the motives of physicians, Dr. Reynolds stated that the only thing physicians really want to do is legalize discretionary dispensing where their own patients are concerned.

Everyone agreed that more group meetings between representatives of the organizations concerned should be held. It was brought out that Committees of The Medical Society of Virginia and the Virginia Pharmaceutical Association had met jointly in the past. Future meetings of this kind would seem to offer the best hope of maintaining proper communications between the two professions.

A question was raised as to whether control of dispensing by physicians should actually be under the Board of Medical Examiners or the Board of Pharmacy. Several pharmacists were inclined to believe that if the present methods of control were changed, the Federal Government would soon insert itself into the picture.

Dr. Andrews then asked if the President of the Board of Pharmacy and the President of the Virginia Pharmaceutical Association would approve the proposed amendments to the Pharmacy and Drug Act. Mr. Roy Smith, speaking for the Pharmaceutical Association stated that no one was in a position to act at that time. He indicated, however, that certainly every effort would be made to reach a position mutually acceptable to all.

Mr. Allen, President of the State Board of Pharmacy, agreed that his group was not in a position to make commitments of any kind and that the proposed amendments would have to be studied further by his group.

After further discussion, a motion was offered by Dr. Thomas which would have appointed a joint study committee composed of representatives of the four groups for the purpose of discussing the various proposed amendments and attempting to arrive at a mutually acceptable understanding. The motion further provided that the recommendations of the special study committee would be presented to the entire group at a meeting to be called at the earliest practical date. The motion was seconded and adopted.

#### MEETING OF SEPTEMBER 21, 1967

A special joint study committee on the Pharmacy and Drug Act of Virginia met at Society headquarters on September 21.

The group was told that physicians generally feel that it is appropriate and proper that all their activities be regulated and controlled by the Board of Medical Examiners. Many also feel that there should be no question concerning their right to dispense drugs to their own patients and make a reasonable charge therefor. It is their feeling presently that they are practicing outside the law as written.

A question was raised as to why the proposed amendments were really desired by physicians. Brought out was the fact that pharmacists feel that physicians are adequately protected under the existing statutes and should have no fear of being harassed or treated unfairly.

It was then stated that many Virginia physicians were, for years, ignorant of the Law and its requirements. Consequently, when they received a letter from the Board of Medical Examiners calling their attention to their responsibility where dispensing is concerned, many became quite concerned about the legality of their dispensing drugs to their patients.

Dr. Andrews stated that Section 54-475 has been interpreted by many to make it unlawful for a physician to keep drugs in "bulk" form in his office. Pharmacy representatives then pointed out that Section 54-445 clears the way for drugs to be sold by wholesalers to physicians, and called attention to the fact that the first sentence of Section 54-475 included the words "except as prescribed in this chapter". He stated that this did in fact make it permissible for physicians to keep "bulk" drugs in their offices.

The difficulties connected with policing were discussed and it was agreed that the Board of Medical Examiners would have to solve a number of problems should it ever be given the responsibility of enforcing the Pharmacy Act where physicians are concerned.

It was made clear that the Pharmacy and Drug Act provides no controls over nonprescription drugs. This is a much misunderstood fact.

Physician ownership of drug stores came in for much discussion, and it was brought out that the AMA Judicial Council does not consider such ownership necessarily unethical. The determining factor is whether there exists any exploitation of the patient. It was pointed out, however, that the Judicial Council had changed its views on this question several times in recent years.

The group was advised that few physicians engaged in volume dispensing—and then only to their own patients. It was brought out that physicians are sincere in wanting to make available to their patients proper drugs and medications for particular conditions. Physicians realize that, in most cases, only pharmacists can provide a full range and choice of drugs. It was the consensus that, regardless of what action might be taken, there will be no marked change in existing methods of practice. No noticeable increase in dispensing is anticipated.

Further discussion revolved about the phrase "made as a sale". Those representing pharmacy wanted it made clear that a reasonable charge made for drugs dispensed by a physician in the normal course of his practice was not considered to be a "sale". Only when a physician departs from the normal practice of medicine and establishes a mechanism for volume dispensing and refilling, is he considered to be affected by the words "made as a sale".

The feeling was expressed that the study group was expected to offer some recommendation to the full Joint Committee on September 28. In this connection, Dr. Hutt suggested that consideration be given to amending our state laws in such manner as to eliminate the necessity for physicians to apply to the State Board of Pharmacy for permits to dispense. Rather, physicians would be required to register for this purpose with the Board of Medical Examiners. He further suggested that the right of inspection be retained by the Board of Pharmacy and that any violations or questionable practices be reported to the Board of Medical Examiners for follow-up and such action as might be indicated.

#### MEETING OF SEPTEMBER 28, 1967

The Special Committee on Pharmacy met jointly on September 28, with representatives of the State Board of Medical Examiners, State Board of Pharmacy, and Virginia Pharmaceutical Association for

the purpose of further discussing proposed amendments to the Pharmacy and Drug Act of Virginia.

The Chairman opened the session by reading the minutes of the Special Study Committee meeting held on September 21. That group had thoroughly discussed the overall problem but had not been able to develop any firm recommendations for consideration by the full group.

It was learned, however, that Dr. Hutt had suggested that consideration be given to amending the Virginia Code in such manner as to eliminate the necessity for physicians to apply to the State Board of Pharmacy for permits to dispense. Rather, physicians would be required to register for this purpose with the Board of Medical Examiners. Dr. Hutt further suggested that the right of inspection be retained by the Board of Pharmacy and that any violations or questionable practices be reported to the Board of Medical Examiners for followup and such action as might be indicated.

Dr. Thomas stated that it was his understanding that the Principles of Medical Ethics of the American Medical Association declare that it is not unethical for a physician to compound drugs in the treatment of his patients.

The Chairman called for detailed consideration of the proposed amendments and Section 54-317 of the Medical Practice Act was discussed first. There followed some discussion on use of the words "solely" and "primarily" and whether the language of the proposed amendment was enforceable. A question was raised concerning whether the term "own patient" could be defined and it was agreed that this would be a patient who received treatment directly from the physician concerned.

A question was raised as to whether physicians are seeking the right to dispense drugs routinely without any controls and the answer was a definite no. Another question asked was whether the practice of medicine actually encompasses the practice of pharmacy. It was stated that pharmacists do not believe this to be the case and that physicians should only dispense when the need is acute or a genuine emergency exists.

It was stated that a great deal of misunderstanding surrounded the prosecution of six physicians in the Fries area of southwestern Virginia. These physicians were not prosecuted by the State Board of Pharmacy—but rather by the Food and Drug Administration. It was learned that only one Virginia physician had actually been prosecuted by the Board of Pharmacy during the last 10-15 year period.



During the ensuing discussion, it was brought out that there is nothing in the present law to interfere in any way with a physician "administering" drugs. The question of injections was raised and physicians were told that they have nothing to worry about in this regard. After all, only physicians can give injections and reasonable charges therefore are expected and perfectly legal.

The group then returned to consideration of the proposed amendment to 54-317 of the Medical Practice Act, and Dr. Cox suggested that the words "solely" and "primarily" be deleted. A motion to this effect was seconded and adopted.

The Chairman then called for an expression of approval of the proposed amendments to 54-317 (as amended) and approval was granted.

Proposed amendments to the Pharmacy and Drug Act per se were then considered and Section 54-417 was the first to be discussed. The difficulties of inspection were covered and Dr. Hutt repeated his suggestion that the right of inspection be retained by the Board of Pharmacy. It was brought out that The Medical Society of Virginia is primarily interested in those physicians who do not qualify for permits to dispense but who nevertheless wish to dispense to their own patients in the normal course of their practice.

Dr. Russell Cox, representing the State Board of Medical Examiners, attempted to put the matter in proper perspective and stated that in his opinion (1) physicians do not wish to be regulated by the Board of Pharmacy, (2) they wish to be completely under the control of the Board of Medical Examiners—particularly where discipline is concerned, and (3) they want the right to dispense drugs in such manner as they think best. He went on to say that the Board of Medical Examiners has never been an investigative body as such. Rather, it has relied on teamwork and had, in fact, worked closely with the Board of Pharmacy over the years.

Dr. Zimmerman expressed the opinion that the Board of Pharmacy should only inspect those to whom it issues permits. With this in mind, a suggestion was made that there be added to the proposed amendment to Section 54-417 the following language: ". . . unless such practitioner holds a certificate issued by the Board of Pharmacy of Virginia for the purpose of dispensing drugs".

Dr. Cox commended pharmacists for the manner in which they work with the medical profession, and expressed the hope that representatives of the Virginia Pharmaceutical Association and Board of Phar-

macy could sit down with Mr. Duval and Mr. Miller and work out a mutually acceptable solution to the problem.

In keeping with Dr. Cox's thoughts, a motion was offered requesting representatives of the Virginia Pharmaceutical Association and Board of Pharmacy to meet with attorneys of The Medical Society of Virginia and thoroughly explore all possibilities which might lead to an acceptable solution. The motion further provided that recommendations reached in such manner would be brought back for consideration by the full Joint Committee at the earliest practical date. The motion was seconded and adopted.

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As this report is being completed, attorneys for The Medical Society of Virginia are meeting with representatives of the Virginia Pharmaceutical Association in an effort to find an acceptable middle ground and ultimate solution to the dispensing problem.

MALLORY S. ANDREWS, M.D., *Chairman*  
W. W. WALTON, M.D.  
GEORGE A. REYNOLDS, M.D.  
J. WARRICK THOMAS, M.D.  
F. CLYDE BEDSAUL, M.D.  
LLOYD T. GRIFFITH, M.D.

## Traffic Safety

The Committee on Traffic Safety of The Medical Society of Virginia recommends the following:

1. That each local medical society in the State of Virginia form a Committee on Traffic Safety that will coordinate its recommendations with those of the Committee on Traffic Safety of The Medical Society of Virginia.

2. In order to encourage students to take Driver Education, the licensing age should be increased to age 18 unless the person shall have passed an approved Driver Education course. This would still enable the student to apply for a license at age 16 if qualified.

3. The State Department of Education should adopt the philosophy that both phases of Driver Education (classroom instruction and practice driving) shall be a part of the school curriculum and that every student shall be afforded the opportunity to take both phases of Driver Education, *free of cost* (insofar as possible), during the regular term and in the same manner (on a full-semester basis) that other academic subjects are offered.



4. At periodic intervals, all drivers should be re-examined to test their knowledge of changing laws, road conditions and rules of the road, and to determine whether they continue to meet the visual standards for licensed drivers. The re-examinations should be required initially at 9, 6 and finally 3-year intervals for persons over 39 until the program is stepped up to re-examinations every 3 years for all motorists after 1974.

5. Drivers' licenses for persons up to age 21 should be issued on a provisional basis subject to suspension in the discretion of the court on conviction or a finding of not innocent for a traffic violation reportable to the Division of Motor Vehicles.

6. Examinations and licensing requirements for license applicants should relate to the types of vehicles which applicants intend to operate: including *motorcycles*, as well as buses, trucks, taxies, school buses and passenger cars.

7. Provisions governing the use of flashing warning lights and sirens by emergency and special vehicles should be simplified and made more uniform. Red lights should, with the sole, well-understood exception of school buses, signal only an emergency and alert other drivers to yield and permit an emergency police, fire or ambulance vehicle to proceed. Yellow lights should be used for warning purposes and blue for identification purposes.

8. To promote greater co-operation between the medical profession and the State agencies concerned with traffic safety, a Medical Advisory Board should be appointed by the State Health Commissioner to operate in close conjunction with the Division of Motor Vehicles and to aid the Division in determining which license applicants are medically qualified to operate a motor vehicle.

9. All drivers applying for renewal, whether or not they will be re-examined, should be required to appear in person at the time of renewal so that visible defects can be observed.

J. E. RAWLS, JR., M.D.

CARNEY C. PEARCE, JR., M.D.

JAMES T. TUCKER, M.D.

MAURICE M. MILLER, M.D.

ROBERT W. WADDELL, M.D.

ADNEY K. SUTPHIN, M.D.

WILLIAM M. DEYERLE, M.D.

SOUTHGATE LEIGH, JR., M.D., *Chairman*

## Liaison to State Bar

This committee has continued to function under those principles established for it by the House of Delegates of The Medical Society of Virginia.

Inquiries continue to be received from attorneys who are considering the possibility of malpractice action on behalf of their clients. The actual submission of cases to the Joint Screening Panel continues at the approximate rate of four inquiries to one hearing. With very few exceptions, malpractice hearings have been held once each month during the past year. Of these hearings, two were in unilateral petition, and six by agreement of both parties. Of those heard on unilateral petition, none was found in favor of the plaintiff and of those petitioned by both parties, two were found in favor of the plaintiff. The Committee received one request from Counsel for the plaintiff for an expert witness, but the case was settled before trial.

The physician members of this Committee continue to feel that it serves a worthwhile purpose on behalf of the membership of The Medical Society of Virginia. Each member of the Committee assumed his full responsibility in attending the hearings and in conscientiously discharging his responsibilities to both parties under the Panel agreement. The Committee feels that it has enjoyed the complete cooperation of the members of the Panel from the State Bar.

The past year has not produced any significant problems that would seem to warrant changes in the present policy.

Experience under the Panel agreement continues to contribute to the Committee's understanding of the problems and the potential problem which exists in regard to malpractice suits. Those critics of the medical profession who argue that there is a "conspiracy of silence" among physicians when malpractice is alleged cannot support their contention. An experienced attorney can almost certainly obtain reasonable opinion regarding the facts in his case, if he approaches his physician-colleagues properly. This does not change the fact that there are a number of conscientious attorneys who either have not maintained such contacts, or who are ignorant of how to overcome the problem of establishing such arrangements. This has resulted in the hearing of several cases by the Panel in which an analysis of the medical situation with the plaintiff's attorney by a competent physician might have served just as well as the Panel hearing. These instances have not been frequent, nor is it the feeling of the members of

this Committee that this represents an abuse of the Committee by plaintiff-attorneys.

It remains the opinion of your Committee that its function does not negate the function of the Insurance Committee in the local society where a review committee does exist. In the majority of potential cases, it is the feeling of your Committee that the local insurance committee can, in all probability, provide correct guidance for the defendant's attorney. If properly managed, it might provide answers for the plaintiff without giving away any essential point in favor of either party.

Your Committee functions either in those cases which are not satisfactorily handled by the local Insurance Committee or where no such committee exists, and no opinion is available to the plaintiff-attorney.

At the last meeting of The Medical Society of Virginia in Williamsburg, November 19, 1966, no definite action was taken regarding the monies received by The Medical Society with applications for Panel hearings. This year the only recommendation of your Committee concerns this account.

Your Committee recommends that the money collected by Mr. Howard, from the plaintiff with the filing of an application for a Panel hearing, be held in a separate account. These funds will be used by the Chairman of the Committee, with approval of the Council of The Medical Society of Virginia, in the management of the Committee's business and in the holding of such hearings as may be required. Should these funds accumulate, they may from time to time be transferred to the General Fund of The Medical Society of Virginia.

JOHN O. BOYD, JR., M.D., *Chairman*

### **Blue Shield Directors**

Composed of those directors of Virginia Medical Service Association appointed by The Medical Society of Virginia, this committee meets regularly as a part of the Virginia Medical Service Association board.

We are able to report that this Blue Shield is healthy and growing. In an attempt to better prepaid health care and get away from fee schedules, effective July 1, 1967, one series was made available offering the "usual and customary fee" approach. There have arisen some objections to some details of this plan. Many, however, are due to misunderstandings and it is hoped that clarification will point out the desirability of it. It is possible that at some time in the future Virginia Medical Service Association might

convert all its plans to the "usual and customary fee" basis.

Your committee would like to see many more participating physicians attend the annual meeting. It hopes to maintain effective liaison between Virginia Medical Service Association and The Medical Society of Virginia.

FLETCHER J. WRIGHT, JR., M.D., *Chairman*

### **Conservation of Hearing**

The Hearing Conservation Committee of The Medical Society of Virginia met in Richmond, September 24, 1967, at the Executive Motor Hotel. Those attending were: John B. Gorman, M.D., Lynchburg; W. Copley McLean, M.D., Charlottesville; Cary N. Moon, Jr., M.D., Charlottesville; John G. Sellers, M.D., Norfolk; George H. Williams, M.D., Richmond and Charles S. Sale, M.D., (Invited, Chairman of the Hearing Conservation Committee, Society of Ophthalmology & Otolaryngology of Virginia).

We strongly urge the requirement of an examination by an otolaryngologist and, if possible, an audiological examination by an audiologist before the sale of a hearing aid in all cases. We considered this to be fundamental to proper hearing aid dispensing.

We agreed that there was the need for hearing aid dealer "licensing and examination" legislation. We recommended that The Medical Society of Virginia appoint a committee composed of four otolaryngologists, three audiologists and three hearing aid dealers, with an otolaryngologist to act as the chairman: This committee to meet on the call of the chairman to propose specific legislation covering the details of examination and licensing of hearing aid dealers, their report to be referred to the Legislative Committee of The Medical Society of Virginia at the earliest possible date.

We further recommended that this committee review the advertising practices of hearing aid dealers and the advertisement of hearing aids and make such recommendations as seem appropriate to control and regulate this phase of the hearing aid business.

We further recommended that an ad hoc subcommittee of this committee, consisting of one audiologist, one hearing aid dealer and one otolaryngologist be appointed to review specific instances of complaints by patients, by doctors, by audiologists, or by the hearing aid dealer referable to the sale of a hearing aid, and to make recommendations of appropriate action to correct the wrong if one exists.

We also recommended that Virginia Retail Sales and Use Tax rules and regulations, I 65, have a para-

graph added to clarify the points that a hearing aid or hearing aid supplies sold on a work-order prescription of a doctor be tax exempt. This would be paragraph (e) Sales of hearing aids and/or hearing aid supplies, except when the sale or sales are made pursuant to the prescription or order of a physician, are subject to the tax.

CARY N. MOON, JR., M.D., *Chairman*

#### 50-Year Members—1967

Everett Ray Altizer, M.D.  
Edward Turner Ames, M.D.  
George Calvert Andes, M.D.  
Carl Ashton Broadus, M.D.  
Joseph Warren Camp, M.D.  
Dean Baldwin Cole, M.D.  
Russell Mills Cox, M.D.  
Charles Joseph Devine, M.D.  
Douglas Shelburne Divers, M.D.  
John Stewart Gilman, M.D.  
Campbell Harris, M.D.  
Marshall Henry Hood, M.D.  
Albert Graham Horton, M.D.  
Kalford Wall Howard, M.D.  
Basil Bradbury Jones, M.D.  
William Baird McIlwaine III, M.D.  
John Jennett Neal, M.D.  
Samuel Raphael Newman, M.D.  
Richard Hemans Price, M.D.  
Mason Romaine, M.D.  
Herbert Linville Shinn, M.D.  
George Couch Snead, M.D.  
Roscoe Franklin Thornhill, M.D.  
Harry Easley Whaley, M.D.

#### Members Whose Deaths Have Been Reported Since 1966 Annual Meeting

Howard Hampton Ballard, M.D.  
George Wasily Basany, M.D.  
Rudolph Vincent Basso, M.D.  
Guenter Hans Boehmer, M.D.  
George Simmerman Bourne, M.D.  
Paul Webster Bowden, M.D.  
Harry Brick, M.D.  
Milton Henry Brockmeyer, M.D.

Lemuel Redmonds Broome, M.D.  
Roy Eugene Christie, M.D.  
Jay Clarence Coulter, M.D.  
Albert Vincent Crosby, M.D.  
Milan Diklich, Jr., M.D.  
Early Beauregard Dovell, M.D.  
Leonard Oswell Fears, Jr., M.D.  
Adam Tyree Finch, Jr., M.D.  
Charles Albert Finnigan, M.D.  
William Flegenheimer, M.D.  
Leonard Meredith Galbraith, M.D.  
Earl Joseph Haden, M.D.  
Jeremiah Aloysius Hart, M.D.  
Martin Barbour Hiden, M.D.  
Samuel Palmer Hileman, M.D.  
Guy Winston Horsley, M.D.  
John Melville Huff, M.D.  
Richard Lemmon Hughes, Jr., M.D.  
George William Hurt, M.D.  
John Gregory Kroll, M.D.  
George Bilton Lawson, M.D.  
Elizabeth Saunders Lee, M.D.  
Eugene Leslie Lowenberg, M.D.  
Preston Brooks Lowrance, M.D.  
Drewry Hamilton Mason, M.D.  
Wylie Charles Mason, M.D.  
Monsey Edgar Mease, M.D.  
Albert Joseph Paquin, Jr., M.D.  
Robert Lee Payne, M.D.  
Hankel Moser Price, M.D.  
John Taylor Ransone, M.D.  
Alexander Stuart Richardson, M.D.  
James McLean Rogers, M.D.  
Joseph Norris Rose, M.D.  
Wade Hampton St. Clair, M.D.  
Albin Millard Saunders, M.D.  
Ernest Boling Saye, M.D.  
James Warren Sayre, M.D.  
John Hamilton Scherer, M.D.  
Alexander Merle Showalter, M.D.  
Frank Pelzer Smart, M.D.  
Hugh Otto Staley, M.D.  
Berlie Trawic Swecker, M.D.  
Andrew Martin Tiernan, M.D.  
John Quincy Adams Webb, M.D.  
William Massie Whitehead, M.D.  
Simon Benjamin Whitlock, M.D.  
William Beverley Wilkins, M.D.  
John Eugene Wine, M.D.



# Auditor's Report

OFFICERS AND COUNCILORS

THE MEDICAL SOCIETY OF VIRGINIA

RICHMOND, VIRGINIA

GENTLEMEN:

We have examined the financial statements of The Medical Society of Virginia, Richmond, Virginia, for the year ended September 30, 1967, as listed in the foregoing table of contents. With the exceptions noted in the immediately following paragraph, our examination was made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

The accounts receivable were not confirmed by direct communication with the debtors; however, the amount is not material in relation to the financial position as a whole.

It is our opinion that the Balance Sheet, Exhibit "A", presents fairly the financial position of the Society at September 30, 1967, in accordance with generally accepted principles of accounting. The Statement of Income and Expenses, Exhibit "C", is prepared on the basis of cash receipts and disbursements.

Yours very truly,

MITCHELL, WIGGINS & COMPANY

By CHARLES W. ANDERSON

Certified Public Accountant

## BALANCE SHEET

September 30, 1967

### ASSETS

#### GENERAL FUND

Cash in banks.....\$ 151,549.83

#### Accounts receivable:

Dues from members—Estimated collectible value—  
1966 dues—50@ \$40.00....\$2,000.00

Advertising—Virginia Medical Monthly.....2,520.52

4,520.52

#### Investments:

United States Savings Bonds—Present value (Schedule 1).....16,204.00

\$ 172,274.35

#### BUILDING FUND

Land and buildings—At cost (Schedule 2).....\$ 112,073.67

Furniture and equipment: (Schedule 2)

Estimated value—October

1, 1950.....\$5,353.11

Cost of acquisitions since

October 1, 1950.....7,701.30

13,054.41

\$ 125,128.08

EXHIBIT "A"

### LIABILITIES AND SURPLUS

#### GENERAL FUND

#### Accounts payable:

Preparation of Medical Journal—  
September, 1967.....\$ 3,589.85

#### Surplus:

#### Available for appropriation:

Balance—September 30, 1967 (Exhibit "B").....168,634.50

\$ 172,274.35

#### BUILDING FUND

Surplus invested in tangible property  
(Exhibit "B").....\$ 125,128.08

\$ 125,128.08

### STATEMENT OF SURPLUS

For the Fiscal Year Ended September 30, 1967

EXHIBIT "B"

#### GENERAL FUND

Balance—October 1, 1966.....\$ 164,057.33

#### Add:

Excess of income over expenses (Exhibit "C")....\$5 824.29

Increase in accounts receivable.....563.49

6,387.78

Total.....\$ 170,445.11

#### Deduct:

Decrease in bond interest

adjustment.....\$1,084.00

Increase in accounts payable 676.61

1,760.61

Balance—September 30, 1967 (Exhibit "A").....\$ 168,684.50

\$ 168,684.50

#### BUILDING FUND

Balance—October 1, 1966.....\$ 125,128.08

Changes.....None

Balance—September 30, 1967 (Exhibit "A").....\$ 125,128.08

\$ 125,128.08

## STATEMENT OF INCOME AND EXPENSES

For the Fiscal Year Ended September 30, 1967

EXHIBIT "C"

	Actual	Budget
<b>INCOME</b>		
Membership dues.....	\$ 116,409.61	
Interest on savings accounts.....	3,111.92	
Interest realized on matured bonds.....	1,820.00	
History of Medicine in Virginia.....	80.30	
American Medical Association.....	1,457.98	
Virginia Medical Monthly:		
Advertising.....	\$ 34,740.45	
Subscriptions—Nonmembers.....	557.15	
	<u>35,297.60</u>	
Total.....	\$ 158,177.41	
<b>EXPENSES</b>		
Salaries.....	\$ 47,027.75	\$ 50,000.00
Telephone and telegraph.....	1,922.62	1,700.00
Postage.....	2,047.72	2,000.00
Stationery and supplies.....	2,642.04	2,000.00
Office equipment—Repairs and replacements.....	1,671.02	1,500.00
Building maintenance and repairs—Net.....	6,528.85	6,800.00
Convention expense.....	(720.11)	1,000.00
Council and committee expense.....	2,919.00	2,800.00
Executive assistant—Travel.....	105.48	200.00
Delegates to American Medical Association.....	1,935.62	2,100.00
President's expense.....	1,198.40	3,000.00
Travel expense.....	1,360.05	1,900.00
Preparation and distribution of medical journal.....	39,136.63	30,000.00
Scientific exhibits.....	360.50	600.00
Legal expense.....	7,240.00	4,000.00
Walter Reed Commission.....	543.00	500.00
Women's Auxiliary.....	11.45	100.00
Membership dues—Affiliated agencies.....	490.00	500.00
Editor—Virginia Medical Monthly.....	1,000.00	1,000.00
Special appropriations:		
Virginia Council Health and Medical Care.....	4,000.00	4,000.00
American Medical Education Foundation.....	1,000.00	2,000.00
Rural Health.....	500.00	500.00
Scholarship—University of Virginia.....	2,000.00	2,000.00
Scholarship—Medical College of Virginia.....	2,000.00	2,000.00
National Congress of Mental Health.....	500.00	500.00
Other special appropriations.....	824.65	650.00
Virginia Medical Political Action Committee.....	12,000.00	12,000.00
News and Views.....	346.05	500.00
Employees' retirement fund.....	6,218.51	5,750.00
Payroll taxes.....	2,050.41	2,000.00
Miscellaneous.....	413.48	500.00
Public relations.....	3,080.00	3,500.00
Totals.....	\$ 152,353.12	\$ 147,600.00
Excess of Operating Expenses Over Operating Income (Exhibit "B").....	\$ 5,824.29	

## FINANCIAL CONDITION

The financial condition of the Society at September 30, 1967, is shown in the Balance Sheet, Exhibit "A", on the accrual basis of accounting. A comparative summary of the financial condition at September 30, 1967, and the two preceding years is presented as follows:

	SEPTEMBER 30,		
	1967	1966	1965
<b>ASSETS</b>			
Cash.....	\$ 151,549.83	\$ 141,045.54	\$ 147,139.47
Accounts receivable.....	4,520.52	3,957.03	3,748.40
Investments.....	16,204.00	21,968.00	21,250.50
Land, buildings and equipment.....	125,128.08	125,128.08	125,128.08
Totals—All Funds.....	<u>\$ 297,402.43</u>	<u>\$ 292,098.65</u>	<u>\$ 297,266.45</u>
<b>LIABILITIES, SURPLUS AND FUND BALANCE</b>			
Liabilities:			
Accounts payable.....	\$ 3,589.85	\$ 2,913.24	\$ 2,352.00
Surplus:			
General fund.....	168,684.50	164,057.33	169,786.37
Fund balance:			
Building fund.....	125,128.08	125,128.08	125,128.08
Totals—All Funds.....	<u>\$ 297,402.43</u>	<u>\$ 292,098.65</u>	<u>\$ 297,266.45</u>

CASH—\$151,549.83

Recorded cash receipts were accounted for by deposits in the banks and disbursements were supported by properly signed and endorsed cancelled checks. The balances on deposit at September 30, 1967, were verified by direct correspondence with the banks or examination of certificate on hand as follows:

First and Merchants National Bank—Checking account .....	\$ 58,004.84
Bank of Virginia—Savings account.....	11,032.47
Southern Bank and Trust Company—Savings account.....	1,533.39
Franklin Federal Savings and Loan Association—Savings account .....	15,629.80
Richmond Federal Savings and Loan Association—Savings account.....	22,336.13
First Federal Savings and Loan Association—Savings account.....	10,688.83
Security Federal Savings and Loan Association—Savings account .....	10,701.95
Williamsburg Savings and Loan Association—Savings account .....	6,622.42
Security Savings and Loan Association—Certificate of deposit .....	15,000.00
Total.....	<u>\$ 151,549.83</u>

INVESTMENTS—\$16,204.00

United States Savings Bonds, as shown in Schedule 1, were verified by inspection of the securities held in a safe deposit box at First and Merchants National Bank, Richmond, Virginia. They are shown in the balance sheet at their current redemption value.

BUILDING FUND ASSETS—\$125,128.08

Details of the building fund assets are shown in Schedule 2. No indebtedness against these assets was disclosed by the books.

## OPERATIONS

The income and expenses for the fiscal year ended September 30, 1967, are shown in Exhibit "C", prepared on the cash receipts and disbursements basis. A summary of income and expenses for the current year are compared with that of the two preceding years as follows:

	FISCAL YEAR ENDED		
	1967	1966	1965
<b>INCOME</b>			
Membership dues .....	\$ 116,409.61	\$ 113,575.10	\$ 110,019.28
Medical monthly publication .....	35,297.60	27,767.44	21,498.60
Other operating income.....	6,470.20	3,520.81	3,124.37
Totals.....	<u>\$ 158,177.41</u>	<u>\$ 144,863.35</u>	<u>\$ 134,642.25</u>
<b>EXPENSES</b>			
.....	<u>152,353.12</u>	<u>150,957.28</u>	<u>116,676.45</u>
Income in excess of expenses .....	<u>\$ 5,824.29</u>	<u>\$ ( 6,093.93)</u>	<u>\$ 17,965.80</u>



# BUILDING FUND ASSETS

September 30, 1967

## SCHEDULE 2

### LAND AND BUILDINGS—At Cost

4205 Dover Road, Windsor

Farms, Richmond, Va.:

Land.....\$22,706.58

Office buildings.....86,161.68

Furnishings and decorations 2,205.41

\$ 111,073.67

Walter Reed House, Belroi, Va.....

1,000.00

Total Land and Buildings...

\$ 112,073.67

### OFFICE FURNITURE AND EQUIPMENT

Estimated insurable value at October

1, 1950.....\$ 5,353.11

Purchased subsequent to Oc-

tober 1, 1950:

Cost during fiscal year

ended September 30, 1951 \$ 951.65

Cost during fiscal year

ended September 30, 1959 6,749.65

7,701.30

Total Office Furniture and

Equipment.....

\$ 13,054.41

Total Building Fund Assets

(Exhibit "A").....

\$ 125,128.08

# IN GENERAL

The bookkeeping records were found to have been kept in a satisfactory manner.

Insurance in force at September 30, 1967, determined from policies on file, is shown below:

## FIRE AND EXTENDED COVERAGE

Building—Windsor Farms, Richmond,

Va.—80% Coinsurance.....

\$ 77,000.00

Office furniture and fixtures—80% Co-

insurance.....

15,000.00

Walter Reed House, Belroi, Va.....

2,000.00

## LIABILITY—OWNER'S, LANDLORD'S AND TENANT'S

Bodily injury.....\$100,000.00—\$ 300,000.00

Property damage.....25,000.00

Medical.....250.00— 10,000.00

## AUTO LIABILITY—NONOWNERSHIP

Bodily injury.....\$100,000.00—\$ 300,000.00

Property damage.....25,000.00

## EMPLOYEE HONESTY BONDS

Executive Secretary-Treasurer.....\$ 5,000.00

Secretary .....5,000.00

ALL RISK—CAMERA FLOATER.....\$ 200.00

# INVESTMENT BONDS

September 30, 1967

## SCHEDULE 1

Bonds	Series	No. Bonds	Dated	Due	Value at Maturity	Cost	Value at 9-30-66	Value at 9-30-67
U. S. Savings.....	J	11	12-1-55	12-1-67	\$11,000.00	\$ 7,920.00	\$10,472.00	\$10,824.00
U. S. Savings.....	J	1	12-1-55	12-1-67	500.00	360.00	476.00	492.00
U. S. Savings.....	J	1	1-1-56	1-1-68	1,000.00	720.00	952.00	984.00
U. S. Savings.....	J	2	2-1-56	2-1-68	2,000.00	1,440.00	1,904.00	1,968.00
U. S. Savings.....	J	2	7-1-56	7-1-68	2,000.00	1,440.00	1,872.00	1,936.00
Total.....					\$16,500.00	\$11,880.00	\$15,676.00	\$16,204.00

(Exhibit "A")

# Woman's Auxiliary . . .

## Mrs. Howard Honored at Convention

. . . by presentation of a framed certificate of Honorary Membership in our State Auxiliary in recognition of her "long and signal service" and the presentation of flowers from her Portsmouth Auxiliary. Mrs. Daniel Anderson, as membership chairman, gave the following citation: Mrs. Kalford W. Howard has lived in Portsmouth all of her



life and has contributed to all phases of that city's community life as a vitally interested mother and doctor's wife. She has served in every medical auxiliary available to her, having been President of the Norfolk Auxiliary (when Norfolk and Portsmouth Medical Societies were one), President of Virginia Auxiliary and President of Southern Auxiliary.

Dr. and Mrs. Howard have one son, an electronics engineer now living in Charlottesville, and two grandchildren. Thus her interest in education was fostered and she has served as President of Ann Street P.T.A. and President of Wilson High School P.T.A.

Her activities have been very broad in scope as have been her warm personality and kind influence. One of the first two women to serve on the Portsmouth General

Hospital Board, she also served as President of that hospital auxiliary. Active in the Portsmouth Community Concert Association, the Portsmouth chapter of D.A.R., Portsmouth Women's Club, and in Monumental Methodist Church, it is no small wonder that in 1957, she was named *Portsmouth's Woman of the Year!*

With all of her leadership and all of her interests, Mrs. Howard has given whole hearted support to other leaders and never has seemed too busy to give counsel whenever it was honestly sought.

Mrs. Howard, we salute you! And for being the doctor's wife that we ourselves would like to be, we sincerely thank you.

## A New Team

. . . of officers was elected at the Forty-Fifth Annual Convention this October in Arlington and installed by Mrs. John M. Chenault, National By-Laws Chairman. Their positions are as follows: President—Mrs. Daniel Anderson of Norfolk; President-Elect—Mrs. Robert Keeling of South Hill; First Vice President—Mrs. William Reardon of McLean; Second Vice President—Mrs. Carl Stark of Wytheville; Third Vice President—Mrs. Reuben Simms of Richmond; Recording Secretary — Mrs. Harold Williams of Newport News; Corresponding Secretary—Mrs. William Johnson of Virginia Beach; Treasurer—Mrs. Herbert Rogers of Norfolk, and as Directors: Mrs. Ralph Landes of Danville, Mrs. George Kelly of Pulaski and Mrs. W. Nash Thompson of Stuart.

## A New Theme

. . . and goals for the year were set forth by Mrs. Anderson at the installation as follows: "*Take a Treat, Not a Treatment—A Treat in Service to Others, Not a Treatment from Others*". There are many possible

themes for a group as broad in scope as ours but this one I've selected is typical of my overall philosophy and I hope will be pleasing to yours. Let's have a year of doing what we have to do in the most pleasant way possible and of electing projects that we can do well. For if we can't do them well and enjoy doing them, we had better not do them at all!

So *Let's Take a Treat, Not a Treatment. A Treat in Service to Others, Not a Treatment from Others.*

And now our goals for this year of 1967-68. I present these to you not as our politician friends are often erroneously accused of doing (promises today, forgotten tomorrow) but in the full knowledge that the groundwork has been laid and the machinery already set into motion to *assure* us that these goals *can* be attainable *this* auxiliary year.

Our first goal will be *increased involvement* at all levels: national, state and local. Our Past President, Mrs. George Kelly, is serving as Eastern Regional Health Careers Chairman and I'm sure she will involve us as never before in health careers. On the state level we need each local or county auxiliary to send us their talented leaders. We must have them or we perish. The new nominating committee is available to you immediately following board meeting this afternoon and throughout the year.

Also on the state level, I have appointed an ad hoc committee on membership extension to seek the aid of our medical society toward *increased involvement* through 100% membership.

We will have had *increased involvement* this month with our representation at the National Eastern Regional Workshop in Philadelphia, our chairmen of AMA-ERF, International Health, Health Careers, Newsletter, your President-elect and President in attendance.

We have *increased involvement* in the sponsorship of the first WA-SAMA (Woman's Auxiliary to the Student American

Medical Association) I appointed a state WA-SAMA chairman, Mrs. Pinson Neal of Richmond, and she in turn appointed a WA-SAMA liaison from the Richmond auxiliary, Mrs. Randolph Hoge. They were to make plans to initiate WA-SAMA in Virginia this year. They did the job better than we could have dreamed and our first WA-SAMA, the Sally Tompkins Chapter in Richmond, is a *reality*, a prime example of having set the machinery in motion. Our Richmond members truly feel that they have "*taken a treat, not a treatment*" and urge you to consider the same if there are teaching hospitals in your area.

The Norfolk Auxiliary has prepared a traveling exhibit on health careers which unfortunately could not travel at the time of convention as it was a window display in one of Norfolk's downtown department stores for the observance of National Health Week.

The Richmond Auxiliary is embarking this month on another new *treat* by active participation in the first "meals on wheels program" in our State.

It is my hope that each of you will be: *determined to be more involved* in AMA-ERF (American Medical Association Education and Research Foundation) boosting our State donation to its regular quota of \$5,000 which we have never reached; *determined to be more involved* in community health (the new and all inclusive name for the community service committee) by presenting in your area at least one of our "package programs" whether it be the one on teen-age venereal disease, developing youth health habits, health careers, or on home centered health care including the volunteer friendly visitor program, GEMS (Good Emergency Mother Substitutes) program or meals on wheels; and above all, *determined to be more involved to meet the special needs in your community.*

I recently read a quotation which I'd like to share with you, "*True happiness is involvement and communication.*" This brings



us to our second goal for this year—*increased communication*. You all know the major means of communication—that of the telephone-telegraph, television, telstar, and “tell-a-woman”. It is this latter on which we want to concentrate. Many people are already planning and working together for this goal.

Our Yearbook Chairman, Mrs. Frank Rowell, of Norfolk, has already obtained lists of your officers and promises that you will have your yearbook copies in the mail within a month.

Our Publicity Chairman, Mrs. K. K. Wallace, Jr., of Virginia Beach, plans to use our space in the Virginia Medical Monthly each month to keep you informed of latest Auxiliary information. Send her your publicity, your ideas and your plans and she will turn the more informal information, and the information more personal to our Auxiliary family, over to our new Newsletter Editor, Mrs. Clarke Pole of Norfolk. This Newsletter will serve as a contact point through which *all* of your State officers and chairmen may reach *all* of you. This being a pioneer project, the dates of publication are not concrete nor is there a name. Your suggestions would be most welcome.

I hope to increase the effectiveness of our communications by *decreasing* and *streamlining* reports. Now won't that be a treat? Mrs. Clyde Bedsaul, one of our past Presidents, has agreed to serve as our first Reports Chairman and to present each County President with forms on which to report, just as each State Chairman receives report forms from national. This one report, made on these forms, will be the only written reports asked of you. For mid-year board meeting in March, you will be asked to give a two minute description of your Auxiliary's most outstanding “treat” for the year.

Also as a means of communication with future generations, I've appointed Mrs. A. B. Gravatt, a Past President, as Chairman

of an Ad Hoc Committee on History for our mid centennial celebration in 1972.

Believing that pictures truly “speak louder than words”, I've appointed an Arts Chairman, Mrs. Hans J. Klapproth of the Fairfax Auxiliary. You have seen much of the handy work at convention and we do look forward to her State scrapbook this year. I'm certain she will be happy to advise you in preparing your local scrapbooks for display in competition next October.

Our Corresponding Secretary, Mrs. William Johnson of Virginia Beach, has already corresponded with each county auxiliary to establish the dates on which your President would visit. She promises to be *my contact* with *each* of you and to answer your inquiries as promptly as possible, whether addressed to me or to her. Those of you in need of State Handbooks, may also contact her.

As a further increase in communications, a copy of the minutes of this meeting and of the board meetings will be mailed to each board member.

Our third goal will be *increased evaluation*—a long look at ourselves and our projects to decide just how well they serve our goals. For example, you requested a study of our Leigh-Hodges-Wright Memorial Fund which was originally planned to be used as financial assistance to physicians with chest diseases needing prolonged treatment. At the same time, this fund was to honor and perpetuate the names of these doctors who were the first sponsors of this auxiliary and who helped us to become organized some forty-five years ago. This fund, now well over four thousand dollars, has not been used for the last ten years. A committee has been appointed under the chairmanship of Mrs. Thomas N. Hunnicutt of Newport News to make recommendations for its future use. They will welcome your suggestions immediately. It has been mentioned that this money (with your continued donations) could be used to sponsor WASAMA throughout our State and thus fur-

ther extend the arm of this auxiliary which these honored men helped to create. Another suggestion has been that the fund be used to sponsor a State Health Careers Day each year for our high school student as one more step toward the alleviation of our gigantic health manpower shortage.

Each year brings new opportunities of service as we have just received a request

from Dr. Raymond Brown of Gloucester as Chairman of the Medical Society's Walter Reed Commission and your board has recommended that a committee be appointed to this purpose.

With so many challenges around us, it is my sincere hope that each of you will have many treats in service and not a single treatment!

### **New Treatment for Childhood Tumor**

The child with a tumor of the kidney called Wilms' tumor once didn't have much chance. The usual course of events was abdominal swelling, fever, great pain—and in about nine of every ten cases, death before the age of five; often before the age of two. Surgeons often considered the tumor inoperable, partly because it grew so quickly. A Wilms' tumor sometimes nearly equalled the child's normal weight.

In recent years, there has been limited success in slowly reducing the size of these tumors with radiation and the drug, dactinomycin. This reduction bettered the chances for successful kidney removal.

The October 30th Journal of the American Medical Association contains a report of encouraging results by four Houston physicians who used a different method. They gave the drug, vincristine sulfate, to four children with inoperable Wilms' tumor, and eliminated radiation before surgery.

In 12 to 21 days, the tumors had been markedly reduced in size. A diseased kidney

was successfully removed from each of the four children, who were then given radiation treatment. Five to 21 months later, all four are alive, with no evidence of malignant disease. Two girls and a boy were three years old. Another girl was eight.

"The purpose of this report is not to depreciate the role of dactinomycin, but to point out to pediatricians, chemotherapists, urologists, and surgeons the availability of another highly active agent which should be incorporated into treatment for Wilms' tumor."

"Surgical procedures, irradiation, and dactinomycin and vincristine in combination might well render most primary Wilms' tumors curable."

This combination treatment also might prolong or save the lives of children with inoperable tumors on both kidneys.

The authors are Margaret P. Sullivan, M.D.; Wataru W. Sutow, M.D.; Ayten Cangir, M.D., and Grant Taylor, M.D., of the University of Texas, M. D. Anderson Hospital and Tumor Institute in Houston.





## Let's be specific about Campbell's Soups... and reducing diets



There are more than 30 million people in America who are overweight. During the next year, you probably will see more than 1,000 of them in your own practice.

One good way to help these patients is to give them a reducing diet based on ordinary eating patterns.

Campbell has prepared a sensible plan for weight control based on ordinary eating patterns. The plan consists of a patient instruction booklet and a set of menus which provide approximately 1,200 calories daily. The menus are balanced to provide the minimum daily requirements of nutrients.

To obtain a supply for your office write to:  
Campbell Soup Company, Box 265, Camden, N. J. 08101





For the ambulant patient with hemorrhoids



# ♦ ♦ ♦ METAMUCIL®

brand of psyllium hydrophilic mucilloid

## Relieves strain

Metamucil produces soft, well-formed stools that minimize pain and strain and reduce the chance of thrombosis in hemorrhoidal veins.

## Softens stools

Metamucil, a highly purified vegetable colloid, absorbs water, hydrates the intestinal contents and produces a demulcent "smoothage" that aids healing of hemorrhoids and anal fissures.

## Reduces pain

Metamucil reduces pain by eliminating the abrasive irritation of hard, dry stools.

## Restores bowel function

Metamucil produces a gentle distention of the intestinal wall that stimulates natural peristalsis and helps reestablish normal, rhythmic bowel function.

## And in constipation...

Metamucil furnishes, as it has for more than 30 years, the simple physiologic corrective to constipation, eliminating both hard stools and the need for harsh laxatives.

### Usual Adult Dosage:

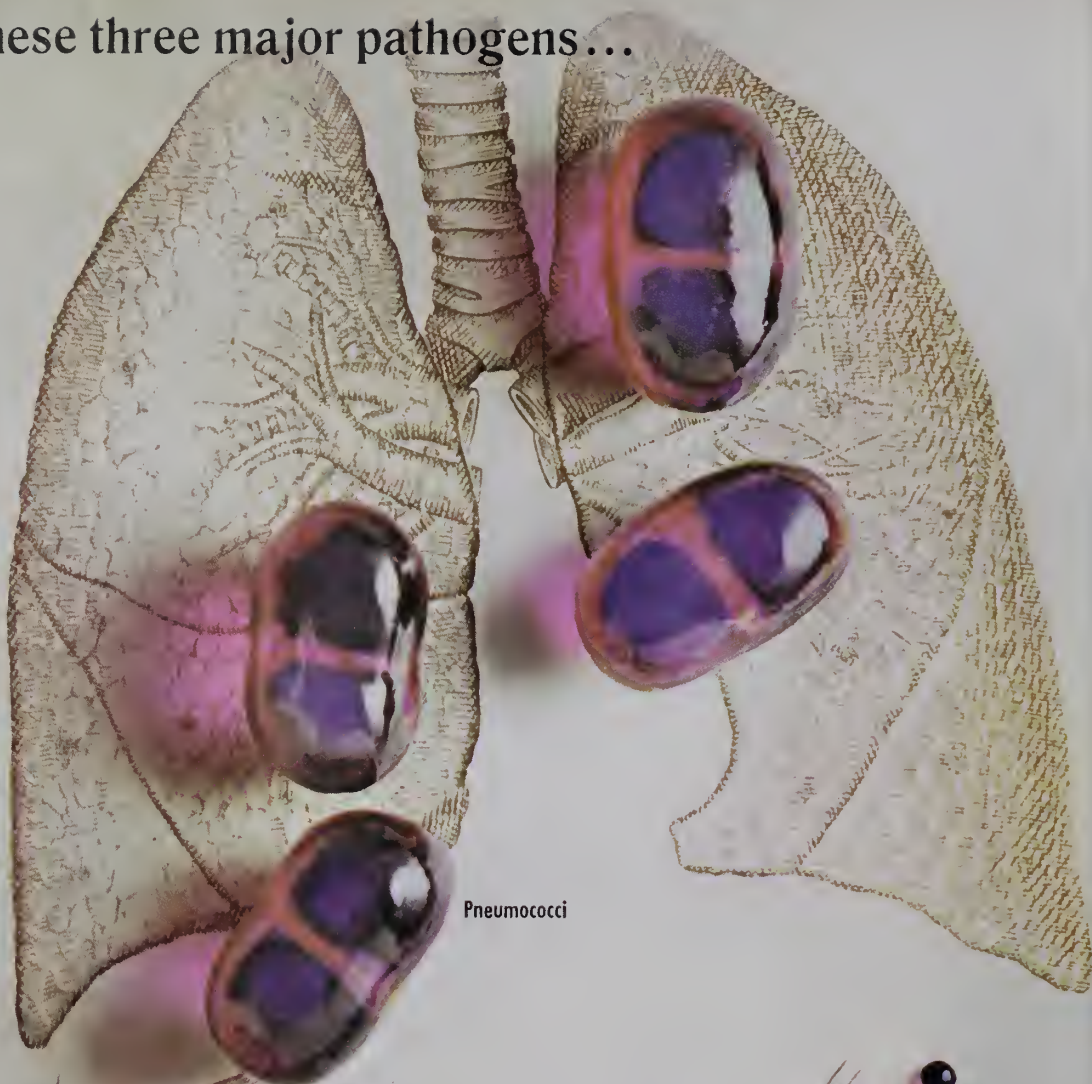
One rounded teaspoonful of Metamucil powder in a glass of cool liquid, or one packet of Instant Mix Metamucil in a glass of water. An additional glass of liquid is helpful.

**SEARLE**

*Research in the Service of Medicine*



Against these three major pathogens...



Pneumococci

Penicillin-Sensitive  
Staphylococci



Beta-Hemolytic  
Streptococci





## Miscellaneous....

### **Volunteer Physicians for Viet Nam**

The state medical societies have shown a real and productive interest in the Volunteer Physicians for Viet Nam program, an interest vital to its continuing success. As you know, this program is financed by the United States Agency for International Development (USAID), and administered, under contract, by the American Medical Association. Physicians sent to South Viet Nam under the program serve a 60-day tour of duty at one of 18 provincial civilian hospitals. The volunteer receives only his transportation and an expense allowance of \$10.00 a day; otherwise his services are entirely voluntary.

At the request of President Johnson, the volunteer physician program was initiated in August 1965, under the direction of the People-to-People Health Foundation. In June 1966, the contract was transferred to the American Medical Association, which had assisted in the recruitment of physicians for the project throughout its first year of operation.

Over three hundred physicians have participated in the program since its inception. Approximately one out of every 1000 licensed physicians in the United States has voluntarily provided, under this program alone, over 50 man years of medical care to the civilian population of South Viet Nam. Current programming calls for the continuing recruitment of 32 volunteers every 60 days; 16 for medicine (general practitioners, internists and pediatricians) and 16 for surgery (general surgeons, orthopedic surgeons, and ophthalmologists).

This medical assistance program has done much to improve the image of American medicine and the American physician.

This program is one of the most successful elements of the U. S. civilian as-

sistance programs. As a consequence, funds have now been provided to increase the number of physicians serving in Viet Nam at any one time from thirty-two to fifty within the next year; thus, we may have a procurement objective for 300 volunteers in 1968, again 1 per 1000 licensed physicians. It is realized that some of the smaller state societies may be able to provide only one physician per year. On the other hand, some of the states with the largest physician populations (California and New York, for example) could sponsor 30 volunteers. This number would meet the entire requirement (2 in general medicine, 2 general surgeons and 1 orthopedic surgeon every 60 days) for a year at one of the larger medical centers at DaNang, Can Tho, or Nha Trang.

More applications especially from general surgeons, orthopedic surgeons, general practitioners and internists are needed. It has been proposed that each state medical association consider sponsoring a given number per year. It has been further suggested that some of the larger societies might accept the challenge of "adopting" a specific hospital by providing the required number of physicians to staff it for one year. I would appreciate very much your reaction to these proposals.

I wish to thank you as Presidents of your state medical societies for your past support of this program. At the same time I urge the continuing support of the program in your state both by your component societies and specialty organizations.

Milford O. Rouse, M.D.  
President  
American Medical Association

August 31, 1967

## Post-Prandial Blood Sugar Tests

**I**N RECENT YEARS there has been an increased use of blood sugar determinations after meals for both the diagnosis and the management of diabetes mellitus. There is confusion as to the interpretation of this data because the methods are not standardized.

A blood sugar determination two hours after the ingestion of 50 to 100 grams of glucose is the most reliable and the most economical screening test for diabetes. The result will vary if the amount of glucose or the time interval for the collection of blood is changed. Meals are often substituted for the oral glucose, but the test is worthless unless the meal contains an adequate amount of carbohydrate. The patient must be given specific instructions as to the kind and the exact amount of food to be consumed. If the true blood sugar is over 150 mg. per 100 ml. it can be concluded that the patient has diabetes. If the blood sugar is less than 100 mg. per 100 ml. diabetes can be excluded. Attempts to narrow this spread or to draw a sharp cut-off are not justified. The standard three hour oral glucose tolerance test should be performed on all patients in the border-line range of 100 to 150 mg. per 100 ml. The decreased glucose tolerance which is associated with age, pregnancy, inactivity and stress must be considered in the interpretation of the results.

The evaluation of diabetic control with post-prandial blood sugar tests enables the patient to come to the laboratory at a more convenient time than he does for fasting determinations. Unfortunately, the criteria for interpretation are not, and cannot be, standardized. The rise and fall in the blood sugar after a meal varies widely and is affected by the following: the severity of the diabetes; the type of hypoglycemic medication; the composition, preparation, and temperature of the food; the time of the day; the amount of physical exercise; the presence of emotional tension; and the rate of gastric emptying. Normally any rise in the blood sugar is followed by an increased secretion of insulin so that there is little variation of the blood sugar in the non-diabetic. With increasing severity of diabetes, the progressive loss of this homeostatic mechanism causes the blood sugar to rise higher and to remain elevated longer after each meal. If the diabetes is mild enough to be controlled by diet alone or by oral hypoglycemic drugs, a two hour post-prandial blood sugar between 100 to 150 mg. per 100 ml. may be expected. Striving for this degree of control in patients taking long acting insulin often results in hypoglycemia before meals. In most diabetics, and especially in those requiring insulin, it is more reasonable to work for a before-meal blood sugar between 80 and 130 mg. per 100 ml. It is uncertain that transient post-

prandial hyperglycemia is harmful, but we do know that hypoglycemia is hazardous. The only way that post-prandial hyperglycemia can be prevented in the severe diabetic is by giving an injection of crystallin insulin before each meal. Few patients are willing to accept this inconvenience with no assurance of its long-term value. The indiscriminate increase in either the dose of insulin or the dose of oral hypoglycemic drug in an attempt to control post-prandial hyperglycemia results in disaster for the patient and frustration for the physician.

JAMES M. MOSS, M.D.

## The VAMPAC Dinner

THE VIRGINIA MEDICAL POLITICAL ACTION COMMITTEE dinner held in The Marriott Motel during The Medical Society of Virginia meeting in October proved most successful. Senators Byrd and Spong and nine of Virginia's 10 representatives were present. Mr. William Tuck was unable to attend because of absence from Washington.

Dr. James M. Moss served as Chairman. Many members of the committee were unable to obtain late reservations, although additional spaces were added to the already crowded dining room. The dinner was a belated victory celebration following the highly successful congressional elections held in Virginia last November. There also was a strong feeling of optimism that VAMPAC could accomplish more next year when the stakes would be even higher.

All of the Virginia congressmen spoke and, with one exception, all of the speakers made enthusiastic references to VAMPAC and several pointed out the role it was destined to play in subsequent campaigns. One congressman took the opportunity to thank VAMPAC for making his election possible. Perhaps he was unduly generous, for, as a rule, a politician is not prone to ascribe the outcome of his election to a specific organization, but his audience enjoyed it and his statement was not lost on the other congressmen present.

It is hoped that this will be the first of many similar occasions, equally pleasant, and that VAMPAC will continue to grow and increase its sphere of influence. The Committee has proper leadership. It does need a larger membership. This can best be accomplished by every member of The Medical Society of Virginia joining this remarkable organization.

H.J.W.



### Calendar of Events

- NATIONAL CONFERENCE ON COMMUNITY AND EMERGENCY MEDICAL SERVICE—Sponsored by American Medical Association—San Francisco Hilton Hotel—San Francisco, California—January 18-20, 1968.
- MEDICAL SEMINAR—A Continuing Education Presentation of the University of Virginia School of Medicine—Hot Springs—February 1-3, 1968.
- STONEBURNER LECTURE SERIES ON NEPHROLOGY—Medical College of Virginia—Richmond—February 22-23, 1968.
- AMPAC NATIONAL WORKSHOP—Sheraton-Park Hotel—Washington, D. C.—March 9-10, 1968.
- SECTIONAL MEETING FOR PHYSICIANS AND NURSES—Sponsored by American College of Surgeons—Williamsburg—March 11-13, 1968.
- CLINICAL CARDIOLOGY—19th Annual Post Graduate Day Program of Roanoke Memorial Hospital—Roanoke—March 21-22, 1968.
- SECOND NATIONAL CONGRESS ON SOCIO-ECONOMICS OF HEALTH CARE—The Palmer House—Chicago, Illinois—March 22-23, 1968.
- 21ST NATIONAL CONFERENCE ON RURAL HEALTH—Olympic Hotel—Seattle, Washington—March 29-30, 1968.
- SECOND NATIONAL CONGRESS ON MEDICAL ETHICS—Drake Hotel—Chicago, Illinois—March 30-31, 1968.
- ANNUAL CLINICAL CONFERENCE—Louise Obici Memorial Hospital—Suffolk—April 3, 1968.
- CARDIOVASCULAR RESPONSES TO ANESTHESIA—Fifth Annual Spring Symposium of Virginia Society of Anesthesiologists—Sheraton Motor Inn—Richmond—April 19-21, 1968.
- VIRGINIA ACADEMY OF GENERAL PRACTICE—Annual Scientific Assembly—The Chamberlin—Fort Monroe—May 9-12, 1968.
- SEABOARD MEDICAL ASSOCIATION—Annual Meeting—Nags Head, North Carolina—June 21-23, 1968.

### New Members.

Members received into The Medical Society of Virginia during the month of October are:

Taullah Bacaj, M.D., Alexandria  
Jerry Wittmeier Bains, M.D.,  
Charlottesville

George Alexander Bendlage, M.D., Luray  
Giovanni DiSandro, M.D., Fairfax  
Robert Emerson Fultz, M.D.,  
South Boston  
Maximino Gomez, M.D., Petersburg  
Everett Giddings King, M.D.,  
Newport News

Felix Maroto, M.D., Petersburg  
Alvin Judson Southworth, M.D.,  
Martinsville  
Albert William Sparrow, M.D.,  
Charlottesville

### **The Medical Society of Virginia**

Annual meeting at the Marriott Twin Bridges, Arlington, October 19-21, was most successful from the standpoint of the program, entertainment, attendance and the weather. There was a registered attendance of 975, consisting of 642 doctors, 173 ladies, and 160 exhibitors.

Dr. Thomas W. Murrell, Jr., Richmond, succeeded Dr. K. K. Wallace, Norfolk, to the presidency, and Dr. F. Ashton Carmine, Newport News, was named president-elect. Vice-presidents are Dr. W. Leonard Weyl, Arlington, Dr. Dennis P. McCarty, Front Royal; and Dr. W. Nash Thompson, Stuart. Robert I. Howard was re-elected secretary-treasurer. Dr. W. Callier Salley was re-elected Speaker of the House and Dr. Thomas S. Edwards, Charlottesville, Vice-Speaker. Councilors for the odd numbered districts were elected as follows: 1st—Dr. Raymond S. Brown, Gloucester; 3rd—Dr. William R. Hill, Richmond; 5th—Dr. F. H. McGovern, Danville; 7th—Dr. James C. Respass, Charlottesville; and 9th—Dr. Carl E. Stark, Wytheville. Those from the even numbered districts hold over for another year as follows: 2nd—Dr. William S. Hotchkiss, Norfolk; 4th—Dr. William Grossmann, Petersburg; 6th—Dr. Harry B. Stone, Roanoke; 8th—Dr. W. D. Liddle, Fredericksburg; and 10th—Dr. Carl P. Parker, Jr., Falls Church. Dr. W. Linwood Ball, Richmond, and Dr. Allen Barker, Roanoke, were re-elected delegates to the American Medical Association, with Dr. W. Callier Salley, Norfolk, holding over for another year. Dr. Alexander McCausland, Roanoke, and Dr. Russell Buxton, Newport News, were re-elected alternates, with Dr. Richard E. Pal-

mer, Alexandria, holding over for another year.

Scientific exhibit awards were presented as follows: First Award and the Mead Johnson Exhibit Award to Dr. C. C. Coleman, Jr., for his exhibit on Restoration of Function to the Injured Hand; Second Award to Dr. John J. Noland, Arlington, for his exhibit on Method of Management of Aortic Aneurysms Involving Renal and Iliac Arteries; and Third Award to Dr. W. R. Southward, Jr., Richmond, on Gonorrhea—Out of Control?

The next annual meeting of the Society will be held in Roanoke, October 13-16, 1968. It is not too soon to begin making your plans to attend!

### **Dr. Edward Turner Ames**

Of Montross is the recipient of the 1967 A. H. Robins Community Service Award. The presentation was made by Dr. K. K. Wallace, President of The Medical Society of Virginia, during the Society's annual banquet at Arlington's Marriott Twin Bridges Motor Hotel.

Referring to Dr. Ames as "a living example of a good citizen", Dr. Wallace said that only good could come from the many, many contributions of one who has "gone out of his way to keep his innumerable acts of kindness a secret".

Dr. Ames has been a true "pillar" of his community since 1921. Although a respected physician, his contributions have gone far beyond the practice of medicine. He has been physician, friend, public servant and benefactor, and his community is a better place to live as a result.

### **The Mid-Tidewater Medical Society**

Celebrated its fortieth anniversary on October 24th. Officers elected for the coming year are: president, Dr. Andres Oliver, Gloucester Point; president-elect, Dr. Paul L. Fisher, Tappahannock; secretary, Dr. M. H. Harris, West Point; and treasurer, Dr. W. H. Hosfield, West Point.

## **Symposium in Nuclear Medicine.**

The annual continuation course in Radiology sponsored by the Medical College of Virginia and held at the Convention Center in Williamsburg is scheduled for February 27 through March 2, 1968. This three and a half-day program will be devoted to "New Applications in Nuclear Medicine", with emphasis on points of a practical nature. Over forty papers will be delivered by ten guest lecturers, as well as permanent faculty at the Medical College of Virginia.

The guest lecturers include: Merrill Bender, M.D.; Albert Gilson, M.D.; Jack Goodrich, M.D.; Alexander Gottschalk, M.D.; Craig Harris, M.S.; David Kuhl, M.D.; James Potchen, M.D.; James Quinn, III, M.D.; Henry Wagner, M.D.; Richard Wetzel, M.D.

Those who are interested in attending this symposium please contact Dr. Ashton Sharpe, Division of Nuclear Medicine, Department of Radiology, Medical College of Virginia, Richmond, Virginia 23219.

## **Dr. Harris Honored.**

The Mid-Tidewater Medical Society, at its quarterly meeting in Urbanna, October 24th, honored its secretary, Dr. Malcolm H. Harris, West Point, for 40 years of service to the organization. He was presented with a bronze plaque. Dr. Harris has missed only one meeting since the organization of the Society 40 years ago.

## **The Late Dr. Horsley Honored.**

Virginia Hospital Service Association and Virginia Medical Service Association presented a citation to Mrs. Guy Winston Horsley, honoring Dr. Horsley who died July 17th. He had been active in Blue Cross since 1940 and in Blue Shield since 1952. The citation was presented "in recognition of his 27 years of devoted and unselfish service to these Plans and to the community in which he practiced and in

which he embodied the finest standards of his profession; during which time he ably served as a member of the Board of Directors, as Vice President and as Chairman of the Board of Virginia Hospital Service Association, and served also as a member of the Board of Directors, as Secretary and Treasurer, as Vice President and as President of Virginia Medical Service Association.

## **Dr. Wood Opens Office.**

Dr. J. Edwin Wood, Jr., formerly professor of internal medicine at the University of Virginia, has opened his office as a cardiac consultant in Charlottesville. He retired from the University in June.

## **J. Shelton Horsley Memorial Lectureship.**

This annual lectureship was held at the Richmond Academy of Medicine meeting on October 24th. Dr. David C. Sabiston, Jr., professor and chairman of the Department of Surgery of Duke University, spoke on The Patho-Physiology and Management of Pulmonary Embolism.

This was the 20th annual lectureship which was established by the late Dr. Guy Winston Horsley in honor of his father.

## **Associates Wanted.**

Generalist, internist, or surgeon, Richmond, Virginia, suburb. Office general practice but limited to specialty in hospital. Salary negotiable, partnership if compatible or expense sharing arrangement. Also need semi-retired physician. Send complete biography to #10, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

## **Psychiatric Residencies for G.P.'s.**

NIMH residency training in approved three year program. Stipend \$11,500 to \$12,000. Applicants must have completed four years or more of practice in field of



medicine other than psychiatry after an approved internship. Applicants should not be over 45. Address inquiries to Chairman, Department of Psychiatry, Medical College of Virginia, Richmond, Virginia 23219. Include curriculum vitae and recent photograph. (*Adv.*)

#### **Physician Wanted.**

Young general practitioner or internist interested in practice for a small town and surrounding area, 15 miles north of Richmond at Ashland, Virginia. Private or medical center facilities available. The medical center is fully equipped as a clinic type facility. Hospitals in Richmond are available within 25 minutes via Interstate 95. Contact Charles J. Blair, Chairman of Hanover County Medical Services Committee, Ashland, Virginia. Telephone 798-7878. (*Adv.*)

#### **Physician Wanted.**

G.P. level—chronic diseases. 153-bed service in 941 bed GM&S V. A. Hospital, Richmond, Virginia. Salary: \$12,873-\$19,813, dependent upon qualifications. Citizenship or immigrant status; licensure any state required. Annual leave 30 days a year; excellent retirement; health and life insurance plans; and other benefits. Non-discrimination in employment. Write Chief of Staff, Veterans Administration Hospital, Richmond, Virginia 23219. (*Adv.*)

#### **For Sale.**

X-Ray Unit, G.E. 300 MA, 125 KVP. Complete and in excellent condition. Call collect Mr. Grady or Mr. Finn, 275-9239, Hull Street Outlet, Inc., 3820 Jefferson Davis Highway, Richmond. (*Adv.*)

## Obituaries . . . .

### **Dr. Abraham Isaac Weinstein,**

Richmond, died November 4, at the age of seventy-five. He graduated from the Medical College of Virginia in 1913. Dr. Weinstein had been a member of The Medical Society of Virginia for fifty-two years and received his certificate for fifty years of practice in 1963.

His wife, a daughter and four sons survive him. One son in Dr. Julian Weinstein, also of Richmond.

### **Dr. Andrew Frederick Giesen,**

Radford, died October 23, at the age of sixty-six. He suffered a heart attack while attending the meeting of The Medical Society of Virginia and died in an Arlington Hospital. Dr. Giesen was a native of Radford and received his medical degree from the University of Oklahoma. He spent 14 years practicing in that State, mostly among poverty-stricken Indians. After postgraduate work, Dr. Giesen returned to Radford where he was instrumental in establishing the Radford Community Hospital. He was a past president of the Southwestern Virginia Medical Society, a founder of the Virginia Eye Bank, and president of the Virginia Society for Crippled Children and Adults. Dr. Giesen was also a past district governor of Lions Club International and

had been an active member of The Medical Society of Virginia for twenty-four years.

### **Dr. William Eugene Lynn,**

Front Royal, was shot by an unknown assailant and died instantly on October 31. He was shot as he stepped out of his car in the driveway of his home in the early evening and his wife received superficial injuries at the same time. Dr. Lynn was fifty-four years of age and received his medical degree from the University of Virginia in 1936. He had practiced in Front Royal since his graduation and was described as the "kindest and gentlest man known and he never had an enemy." Dr. Lynn had been a member of The Medical Society of Virginia for twenty-four years.

His wife, a son and two daughters survive him.

### **Dr. Robert Winding Lee,**

Vienna, died October 24, at the age of fifty-three. He was a graduate of the University of Cincinnati Medical College in 1940 and located in the Northern Virginia area in 1945. Dr. Lee was formerly chief of orthopaedic services at the Alexandria Hospital. He was a past president of the Northern Virginia Academy of Surgeons and had been a member of The Medical Society of Virginia for twenty-one years.

His wife and two daughters survive him.

# VIRGINIA MEDICAL MONTHLY

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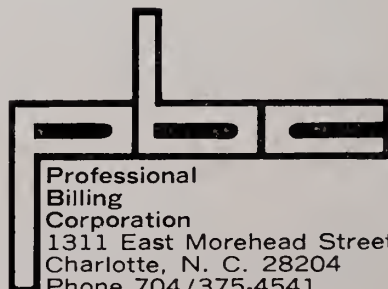
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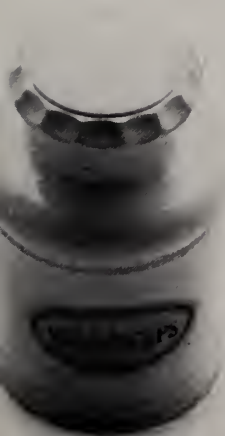


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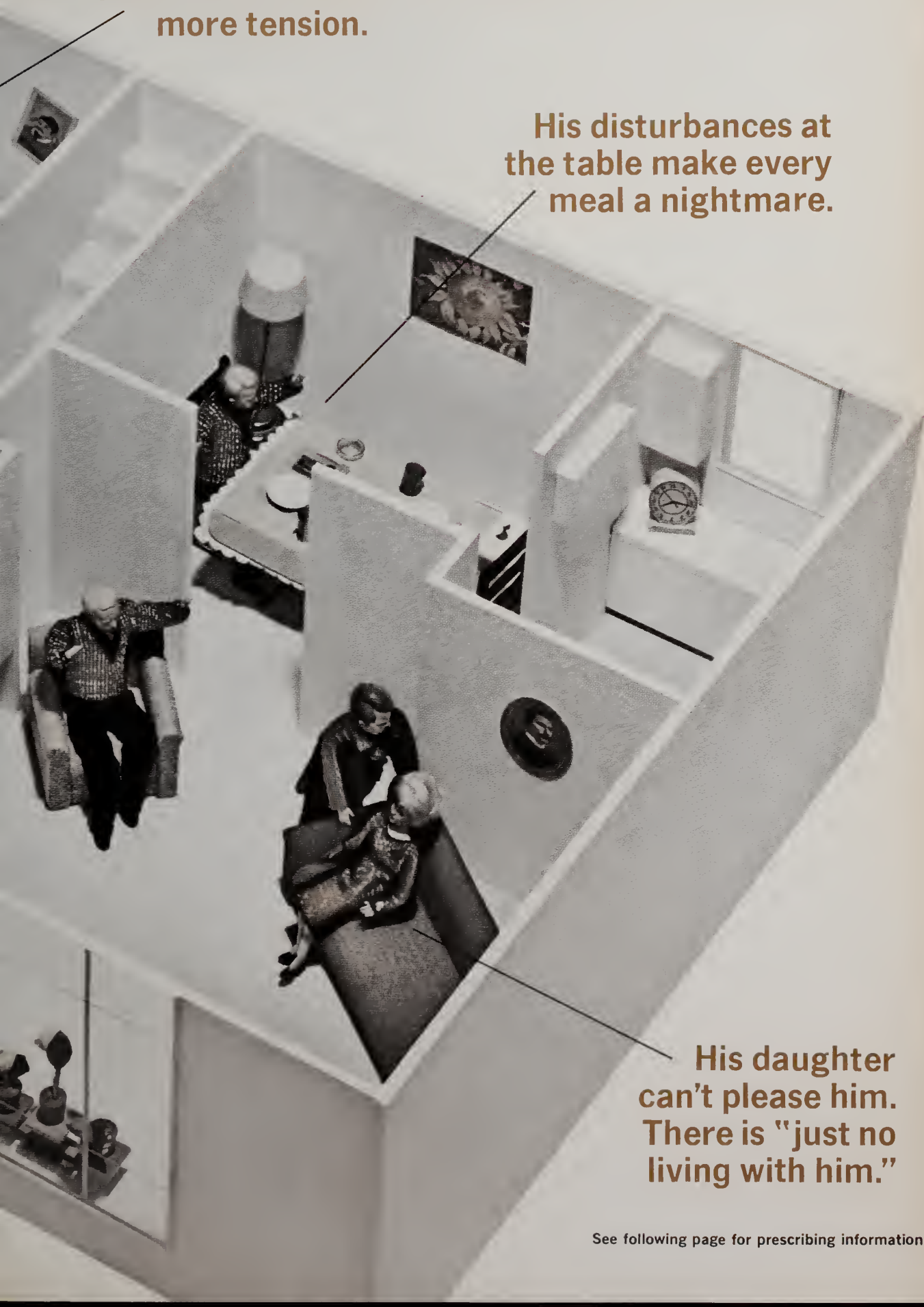
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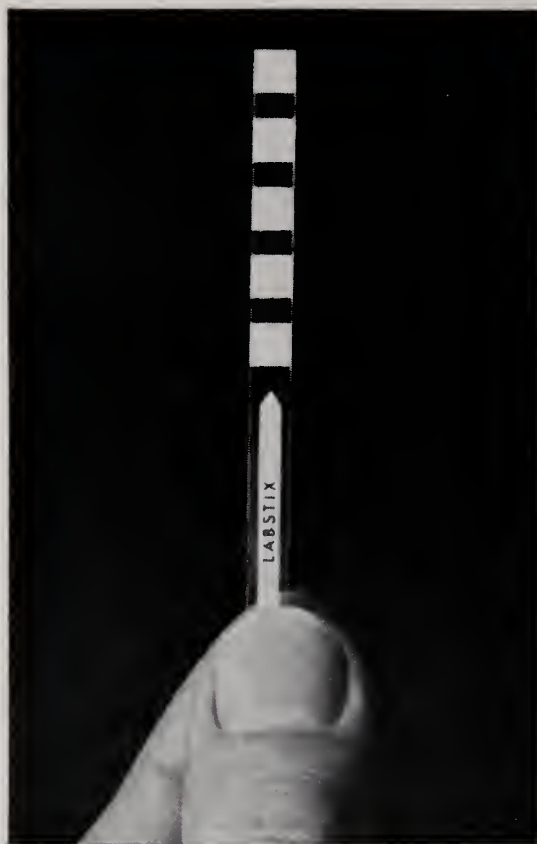
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1. Gold, Harry, et al.: *A System for the Routine Treatment of the Failing Heart*, The American Journal of Medicine, Vol. III, No. 6:665-692 (Dec.) 1956.

2. Modell, Walter: *Drugs of Choice* 1966-1967, p. 97, 1966.

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**INDICATIONS:** In depression of any kind—neurotic and psychotic depressive reactions; manic-depressive or involutional psychotic reactions.

**CONTRAINDICATIONS:** Glaucoma, urethral or ureteral spasm, recent myocardial infarction, severe coronary heart disease, epilepsy. Should not be given within two weeks of treatment with a monoamine oxidase inhibitor.

**RELATIVE CONTRAINDICATIONS:** (1) Patients with a history of paroxysmal tachycardia. (2) Patients receiving concomitant therapy with thyroid, anticholinergics or sympathomimetics may experience potentiation of effects of these drugs. (3) Safety in pregnancy has not been established.

**PRECAUTIONS:** (1) Outpatient use of desipramine hydrochloride should not be substituted for hospitalization when risk of suicide or homicide is considered grave. (2) If serious adverse effects oc-

cur, reduce dosage or alter treatment. (3) In patients with manic-depressive illness a hypomanic state may be induced. (4) Discontinue drug as soon as possible prior to elective surgery.

**ADVERSE EFFECTS:** Side effects, usually mild, may include: dry mouth, constipation, dizziness, palpitation, delayed urination, "bad taste," sensory illusion, tinnitus, anxiety, agitation and stimulation, insomnia, sweating, drowsiness, headache, orthostatic hypotension, flushing, nausea, cramps, weakness, blurred vision and mydriasis, rash, tremor, allergy, agranulocytosis, altered liver function, ataxia, and extrapyramidal signs.

**DOSAGE:** Optimal results are obtained at a dosage of 50 mg., t.i.d. (150 mg./day). **SUPPLIED:** NORPRAMIN (desipramine hydrochloride) tablets of 25 mg.; bottles of 50, 500 and 1000; and tablets of 50 mg., in bottles of 30, 250 and 1000.

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**Contraindications:** Glaucoma, prostatic hypertrophy, stenosing peptic ulcer, pyloroduodenal obstruction, or bladder neck obstruction.

**Precautions:** Use cautiously in the presence of hypertension, hyperthyroidism, coronary artery disease; warn vehicle or machine operators of possible drowsiness.

**Usage in Pregnancy:** Use cautiously, especially in the first trimester. **Note:** The iodine in isopropamide iodide may alter PBI test results and will suppress  $^{131}\text{I}$  uptake; discontinue 'Ornade' one week before these tests.

**Adverse Reactions:** Drowsiness; excessive dryness of nose, throat or mouth; nervousness; insomnia. Other known possible side effects of the individual ingredients: nausea, vomiting, diarrhea, rash, dizziness, fatigue, tightness of chest, abdominal pain, irritability, tachycardia, headache, difficulty in urination. Thrombocytopenia, leukopenia and convulsions have been reported but no causal relationship has been established.

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is no  
laughing matter

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or all-night relief



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**Contraindications:** Hypersensitivity and most cases of severe renal or hepatic disease.

**Warning:** With the administration of enteric-coated potassium supplements, which should be used only when adequate dietary supplementation is not practical, the possibility of small bowel lesions (obstruction, hemorrhage, and perforation) should be kept in mind. Surgery

for these lesions has frequently been required and deaths have occurred. Discontinue enteric-coated potassium supplements immediately if abdominal pain, distention, nausea, vomiting, or gastrointestinal bleeding occur.

Use with caution in pregnant patients, since the drug may cross the placental barrier and adverse reactions which may occur in the adult (thrombocytopenia, hyperbilirubinemia, altered carbohydrate metabolism, etc.) are potential

problems in the newborn.

**Precautions:** Antihypertensive therapy with Hygroton should always be initiated cautiously in postsympathectomy patients and in patients receiving ganglionic blocking agents or other potent antihypertensive drugs, or curare. Reduce dosage of concomitant antihypertensive agents by at least one-half. Barbiturates, narcotics or alcohol may potentiate hypotension. Because of the possibility of progression of renal damage, peri-

odic determination of the BUN is indicated. Discontinue if the BUN rises or liver dysfunction is aggravated. Hepatic coma may be precipitated.

Electrolyte imbalance, sodium and/or potassium depletion may occur. If potassium depletion should occur during therapy, Hygroton should be discontinued and potassium supplements given, provided the patient does not have marked oliguria.

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essential prescribing  
information is  
shown below.

severe ischemic heart disease and  
in patients receiving corticoste-  
roids, ACTH, or digitalis. Salt re-  
striction is not recommended.  
**Adverse Reactions:** Nausea, gastric  
irritation, vomiting, anorexia, con-  
stipation and cramping, dizziness,  
weakness, restlessness, hypergly-  
cemia, hyperuricemia, headache,  
muscle cramps, orthostatic hypo-  
tension, aplastic anemia, leuko-  
penia, thrombocytopenia, agranu-  
locytosis, impotence, dysuria,  
transient myopia, skin rashes, urti-

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Before prescribing, please consult complete product information, a summary of which follows:

**Contraindications:** Infants, patients with history of convulsive disorders, glaucoma or known hypersensitivity to drug.

**Warning:** Not of value in the treatment of psychotic patients, and should not be employed in lieu of appropriate treatment.

**Precautions:** Limit dosage to smallest effective amount in elderly or debilitated patients (not more than 1 mg, one or two times daily initially) to preclude ataxia or oversedation, increasing gradually as



needed or tolerated. As is true of all CNS-acting drugs, until correct maintenance dosage is established, advise patients against possibly hazardous procedures requiring complete mental alertness or physical coordination. Driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. If such combination therapy is used, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of Valium (diazepam), such as phenothiazines, barbiturates, MAO inhibitors and other antidepressants. Advise patients against simultaneous ingestion of alcohol or other CNS depressants. Safe use in pregnancy not established. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Observe usual precautions in impaired renal or hepatic function.

Periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.

**Side Effects:** Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also

reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash; paradoxical reactions (excitement, depression, stimulation, sleep disturbances, acute hyperexcited states, hallucinations); changes in EEG patterns during and after drug treatment. Abrupt cessation after prolonged overdosage may produce withdrawal symptoms (convulsions, tremor, abdominal and muscle cramps, vomiting, sweating) similar to those seen with barbiturates, meprobamate and chlordiazepoxide HCl.

**Dosage:** *Adults:* Mild to moderate psychoneurotic reactions, 2 to 5 mg b.i.d. or t.i.d.; severe psychoneurotic reactions, 5 to 10 mg t.i.d. or q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; muscle spasm with cerebral palsy or athetosis, 2 to 10 mg t.i.d. or q.i.d. *Geriatric patients:* 1 or 2 mg/day initially, increase gradually as needed and tolerated. (See Precautions.)

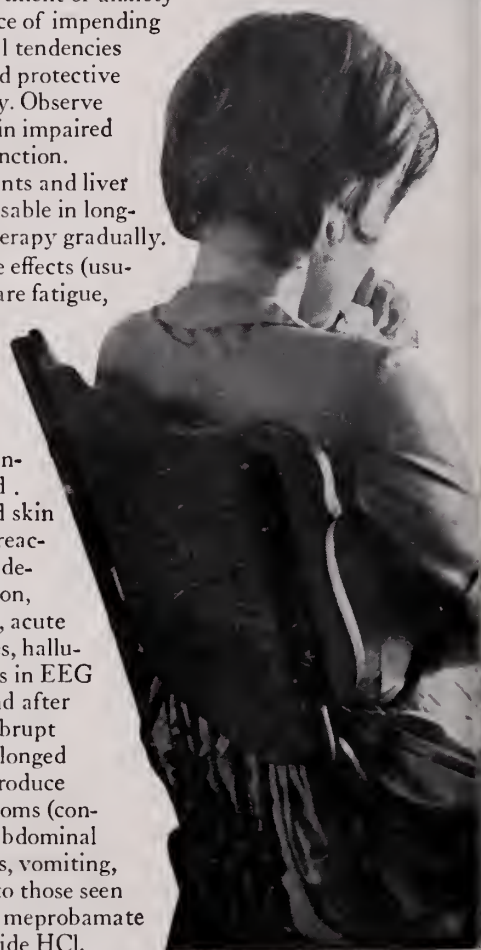
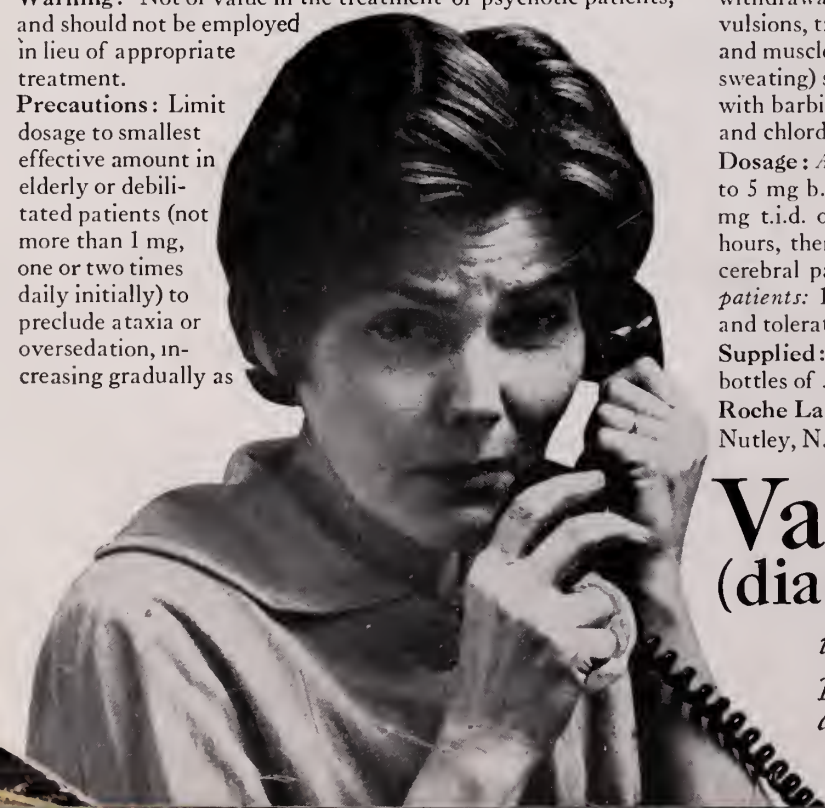
**Supplied:** Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 50 and 500.

Roche Laboratories, Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110

# Valium® (diazepam) Roche®



*useful for the relief of  
psychic tension with associated  
depressive symptoms*











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